Quality of life in resource towns

J.A. Riffel
Center for Settlement Studies
University of Manitoba

Ministry of State Urban Affairs Canada
Ministère d'État Affaires urbaines Canada

Quality of life in resource towns

J.A. Riffel
Center for Settlement Studies
University of Manitoba
Winnipeg, Manitoba

Ottawa
August 1975

The views expressed are those of the author and do not necessarily represent those of the Ministry of State for Urban Affairs. Not for quotation or reproduction without the author's express consent in writing.

Available by mail from Information Canada, Ottawa, K1A 0S9
and at the following Information Canada bookshops:

Halifax
1683 Barrington Street

Montreal
640 St. Catherine Street West

Ottawa
171 Slater Street

Toronto
221 Yonge Street

Winnipeg
393 Portage Avenue

Vancouver
800 Granville Street

or through your bookseller

Price: Canada: $2.00
Other Countries: $2.40 Catalogue No. SU31–19/1975

Price subject to change without notice

Information Canada
Ottawa, 1975

The present interest in our north and farther north is well based historically. The national task of Canada has been to create the resources and institutions by which the simple northern economy of the past can be developed on a national scale to an American standard of living. This we have been doing.

W.L. Morton.
"The North in Canadian History."
North, 7,1.1960.

SINGLE ENTERPRISE COMMUNITIES IN CANADA

This study was carried out under contract to the Ministry of State for Urban Affairs, Canada, as part of the work program of the Urban Economy and Environment Directorate of the Policy and Research Wing. Its purpose was twofold. First, it responds to the needs of the Co-ordination and Development Wing of the Ministry as a basic reference for joint consultation with the provinces on the planning of resource communities and regional development strategies. Secondly, as an investigation of the quality of life concerns of Canadians in one particular type of community, it adds to efforts within the Directorate to identify quality of life concerns and develop policies to improve conditions in urban areas.

The report is unavoidably incomplete. Several topics which might have been included are not. Moreover, the report aims at multidisciplinary perspectives and at breadth rather than depth. The approach taken in the report is essentially descriptive and inductive – to describe what is being done and to draw conclusions from past efforts. In Canada considerable experience has been acquired in the development of resource towns and in the knowledge of what does and does not work. It is hoped that this report, by recording some of that experience and knowledge, might contribute to improved planning in developing resource communities.

Ronald W. Crowley,
Director,
Urban Economy and
Environment Directorate

Acknowledgements

I am grateful for the interest and assistance of a number of people who contributed to the production of this report. Much of the research on which it is based was conducted at the Center for Settlement Studies at the University of Manitoba; I am indebted to my colleagues at the Center.

Thanks are due to David Belgue, the staff officer of the Ministry of State for Urban Affairs assigned to this project. His contribution to the report is substantial.

I appreciate the thoughtful comments received from Len Siemens, C. Framingham, J.A. MacMillan and J.B. Nickels of the University of Manitoba. Denis Nokony did the sketches which appear in the report. Valerie Borthistle and Wanda Barringer prepared the manuscripts.

Contents

A scenario

Imagine, if you will, a town located in northern Saskatchewan, some 650 miles north of Regina, the provincial capital.[1] The nearest centers of any size are La Ronge and Uranium City. Only La Ronge is accessible by road.

Until recently, the area had been occupied only by a small number of migratory Indian trappers and fishermen. In 1964, the World Mineral Corporation discovered a high grade nickel deposit in the area. By 1965, drilling had proven reserves of 10,000,000 tons of ore averaging 3.7 percent nickel, with the potential for further discoveries being good.

Because a world nickel shortage was in prospect and because prices were high, it was decided to establish mines and a concentrating plant as quickly as possible. In December of 1965 the company was commissioned to operate with an annual throughput of 500,000 tons of ore. Construction was to proceed at maximum speed.

The present population of the town is 4,200. The work force is 1,500, of which 1,200 work for the World Mineral Corporation. The remainder are employed in building and construction, retail services and government. Roughly 60 percent of the company's employees are married men. There are few unmarried women in the town and only a small number of the married women are employed. About 50 Indian families live in a squatter's village about one-half mile west of the town.

Physically, the town is attractively planned and is situated in a hilly and well-treed area. The climate is cold and dry. The average annual precipitation is 15 to 20 inches.

The town has its own airstrip for light aircraft. There is a light gauge railroad (completed in 1969), but this is used only for concentrate and freight. A two-lane, all-weather road connects the town with La Ronge. There is daily bus service to and from La Ronge.

The town is fully serviced, with sewerage, water and electricity, and has a 75-bed hospital. Elementary and secondary schools have been established, and a community college based in La Ronge provides some opportunities for further education.

Regular postal and telecommunications facilities are available. The television station in Prince Albert established a satellite transmission station in the town in 1971.

The town has a reasonable range of commercial facilities.

There is one major shopping center and a variety of other service enterprises. A private hotel, with a large beer parlour, was built in 1969.

Recreational facilities are quite complete. The town has a small lending library, a movie theater, a community center, and a number of service clubs. Most of the sporting activities are out-of-doors, but the town has covered skating and curling rinks and is building an in-door swimming pool.

The town has full municipal status, with the elected town council having powers of taxation, etc.

Labour turnover problems have beset the town. During the construction and development of the town and the mining operation, the annual rate of turnover exceeded 200 percent. The cost of this turnover was high – the company estimated $1,200.00 per employee not including lost productivity. Attracting and maintaining a stable work force was a pressing issue.

Reasons for this high rate of turnover were:

(a) isolation of the town
(b) inhospitable climate
(c) inadequate housing
(d) inadequate services and facilities
(e) predominance of single men and the absence of female companionship
(f) inadequate educational and medical services
(g) few opportunities for employment for married women
(h) difficult working conditions
(i) limited opportunities for promotion.

During the development phase, the company and the province were acutely aware of these problems which they saw as factors intensifying the difficulties of attracting and maintaining a stable work force. However, during this period both were preoccupied with bringing the mine into operation. Not until the initial development of the mine and townsite was completed in 1970, were they able to attempt solutions to the problems of turnover.

Early in 1971, the province and the company began to take remedial action. Transportation links with the south were improved and television was made available. Temporary housing for single men was replaced by a variety of better quality housing forms and the company offered employees attractive incentives to purchase their residences. Community

services were upgraded with the building of a shopping center. The company began to recruit married men, and tried to find employment for their wives. The school was moved from temporary to permanent facilities and a covered curling rink was built. A hospital was built and the company employed the medical staff.

In 1972, world nickel prices dropped sharply, and the company had to cut back its work force by 500. When prices began to rise in mid-1973 it faced a shortage of labor which persisted for about a year.

By late 1974, the labor shortage was largely overcome and the rate of turnover began to show a marked reduction. The current rate is 60 percent, compared with the more than 200 percent of the construction and development period.

The large ore potential of the area would seem to ensure the life of the mine. Nevertheless, the town has an atmosphere of impermanence and of a built in "boom and bust" cycle. The vulnerability of the town is apparent – rumors about high grade, easily mined ore bodies in Africa set people to thinking about their own future. The only certainties are uncertainty, dependency and vulnerability.

Approach

The idea of living in such a community in the Canadian north is one of the least appealing thoughts possible to most people.[1] Yet the north and its resources have been and are being developed, providing opportunities for employment and leading to the creation of new towns on the resource frontier.

How, if at all, can people be attracted to resource towns and be encouraged to remain? How, if at all, can the quality of living in these towns be enhanced?

These questions touch closely both on public policy at the federal, provincial and local levels and on the economic interests of firms in the private sector. The purposes of this paper are to:

(a) review problems and issues associated with the quality of living in resource towns;
(b) examine solutions to these problems and explain prevailing ideas or proposals for solving these problems.

This study is designed as an *overview* of current thought and research related to quality of life issues in resource towns. It deals with resource towns in general rather than with those in one specific region or industry. It focuses primarily, though not exclusively, on the Canadian experience. The term resource community means a population center in which the economic activity of the residents is dependent upon the extraction and primary processing of a natural resource, dependency being measured in either employment or export base terms. The concept includes mining towns, towns based on the forestry industry, towns serving hydroelectric facilities and towns dependent upon hydroelectric facilities. It does not include administrative, port, defence and communications towns.

The term quality of life refers to the level of well-being of the residents and to the suitability of the town environment created by the development of the natural resource industry for the work force and the other inhabitants of the town.

The approach taken in this study is to select from the fragmented information available a reasonable sample to provide the reader with an overview of relevant quality-of-living issues. The emphasis is on compiling basic information on quality-of-living conditions in both "objective" and "subjective" terms. Because few, if any, comprehensive studies have been conducted on representative resource towns, the information presented here is a mosaic, a composite of

different information from different towns, representative of most resource towns in general but none in detail.

This work, then, is only a beginning. On the one hand it develops some propositions about the quality of living in resource towns. On the other, it raises many more questions than it answers. It is hoped that these two emphases will assist readers to develop useful insights into the quality-of-living issues in resource towns.

Framework

Broadly speaking, the idea of the "quality of life" has three main dimensions – the individual, the social and the substantive.

The *individual* or personal dimension refers to the satisfaction of basic human needs or wants.[1] It denotes the totality of goods, services and conditions which, individuals determine, constitute the basic nature of life; the essential elements of life which are needed or wanted. Equally important are the actual level of goods, services and conditions available and the individual's expectations of them. What an individual perceives as satisfying and what he does not are relative to his unique frame of reference.

The *social* dimension refers to the achievement of community, group or social goals and values. A social goal is an objective sought through group action; it may differ from the primary goals of most of the individuals of the group. Thus, a social definition of the quality of life would involve social agreement of the totality of goods, services and conditions which constitute the basic nature of life in society, the essential elements which are needed or wanted by society.[2]

The third dimension is the *substantive* dimension – *what* individual needs and *what* social goals? There have been numerous attempts to specify these components of quality living but with little agreement among them.[3] The components listed below come from a variety of sources and were selected, somewhat arbitrarily, with a view to their significance in resource towns. The components of quality living used in this report are:

(a) environmental conditions
  (1) housing
  (2) townsite and other aspects of the man-made environment
  (3) natural environment
  (4) recreation
  (5) communications, access and transportation

(b) individual attributes
  (1) income
  (2) education
  (3) employment

(4) physical and mental well-being
(5) family life
(6) personal safety
(7) political and social participation
(8) community

The argument that will be used in assessing quality of living within this framework is that individual needs and wants delineate their concept of the ideal community. Given such a concept, individuals will search for and move to communities providing the largest achievable set of quality of life factors. Similarly, a society with a concept of the ideal community will strive to create it for its members. Quality, then, refers to the gap between the ideal and the actual – the lower the gap, the higher the quality and vice versa.

Context

The creation of new towns on the resource frontier is not a new phenomenon in the Canadian experience. The "company town" has been a familiar feature of Canada from the earliest stages of its history. In early periods, they were regarded as temporary settlements which could be abandoned when the resources were fully exploited. They attracted unskilled labor and placed them in impermanent and rather primitive accommodations.

Now, however, resource towns are recognized as a permanent feature of Canada's national life.[1] This changed outlook toward these settlements is a result of, or is reflected in, the following factors:

(a) Towns built since 1950 tend to be more isolated than those built earlier. As opportunities for expanding or filling in the capacity of existing settlements decreased, the resource frontier has moved even further from the southern population belt and the amenities it offers. This has led to the need to provide these amenities in remote settlements.
(b) The exploitation of resources now requires more sophisticated technology. This implies importing skilled people with expectations for a higher level of living.
(c) There is a recognition of the need for planning to ensure markets, to implement conservation policies, and to provide an adequate standard of living.
(d) As a result of growing governmental participation in resource development, public towns are increasing company towns are decreasing in number.
(e) There are emerging concepts of town planning which have influenced the form of new settlements.

The new towns which are a product of these changes show a great variety in form and design. Yet, *in general*, there are striking similarities among them in economic, demographic and social terms.[2]

Economic characteristics

Here one must remember the dominant role of the development of natural resources and their primary processing for export. Resource communities are highly dependent upon outside demand for their primary products.

The development of resource communities is supported by the importation of capital, some of it private, much of it from

foreign sources. Increasingly, resource towns are becoming technology intensive.

Resource communities are developed largely by private enterprises, but with a large and growing measure of public participation and intervention.

Resource towns are costly to build and maintain. They are dependent upon outside sources for their supply of basic commodities and services. These are more difficult and costly to provide than in less isolated areas. Most resource towns have limited opportunities for the development of manufacturing and for economic diversification.

The development of resource towns is supported by the large-scale immigration of workers. In typical resource communities about 80 percent of the total population is composed of the basic industry's work force, the balance being employed in service and other industries. Employment opportunities for women are limited.

Demographic characteristics

The most striking feature of resource towns in demographic terms is the high rate of labor and population turnover. Annual turnover rates in excess of 200 percent in the construction phase and over 60 percent once the industry is in production are common.

New resource towns show young age structures. Young married workers with young and growing families make up the major part of the towns' populations.

Most resource towns have a greater number of single males, a smaller number of single females, and a smaller number of retired people than the average Canadian community.

Many resource towns are built in areas traditionally occupied by native peoples. Even when they are not, they seem to have a pull effect, attracting native peoples from more remote areas.

Social characteristics

The social characteristics of resource towns are linked directly or indirectly with their economic and demographic characteristics.

Many resource towns show a disproportionately high incidence of social problems: alcohol and drug abuse, violence,

racial discrimination and so on.

Social stratification (for instance, divisions between managers and workers, native peoples and whites) tends to be pronounced in resource towns.

Life in many resource towns is organized around the "mill whistle" and daily shift routines.

Access to information and the media tends to be limited. Communications and access to southern centers is difficult.

The use of discretionary time can be problematic, especially for wives who are not working. Boredom among unemployed wives has been correlated with a high rate of mental illness in resource towns.

There is some evidence to suggest that, although there is a lot of social activity in resource towns, there is little sense of community and belongingness.

The level of services and the quality of basic amenities such as housing in resource towns tends to be high. Unemployment tends to be low and welfare rolls tend to be small.

Stages in development

It is important to note, however, that the previously mentioned characteristics of resource towns are not static. That is, there are stages in the development of resource towns, and the movement from one stage to another is accompanied by social, demographic and economic changes, and by variations in quality of living.

It can be hypothesized that the development of resource towns passes through the following stages:[1]

(a) natural or prediscovery
(b) prospecting, discovery, exploration and survey
(c) industrial and community construction
(d) industrial operation and community improvement
(e) industrial and community operation, including expansion of secondary and service industries
(f) community diversification
(g) community maturity

These stages, and their economic, demographic and social characteristics as hypothesized, are described in brief in the following table.

Several points about the seven stages should be noted. One, the development of resource towns is not necessarily linear, and not all towns will move through the seven stages. They may become "frozen" at one stage of development. There may be a built in "boom and bust" cycle. Resources may be depleted before the movement through the stages can be completed.

Two, communities may be planned to move through the various stages of development (such seems to have been the case in Leaf Rapids, Manitoba). On the other hand, movement from one stage to another can be almost fortuitous – for example, a resource town located on transportation routes may become a distribution center, thus acquiring a more diversified economic base.

Three, at the last stage, community maturity, takes the longest to achieve. In terms of quality of living, this stage may also be the most crucial, for this is the stage in which feelings of community and belongingness emerge. Some sociologists suggest that this takes about three generations to achieve.[2] It seems paradoxical that the quality of living in a town would become most satisfying at the time when one could expect that the resources around which the town was built become depleted.

Stages and characteristics of resource town development

Stage	Economic characteristics
Natural or prediscovery	No economic activity or only hunting and fishing by native peoples.
Prospecting to survey	Short term activity. Money spent "outside". Traditional native economy persists, with some trade with whites.
Industrial and town construction	The first boom period. Mushrooming economic activity. Natives may be employed.
Industrial operation and community improvement	Shift in construction from industrial to residential and commercial. More money spent in town. Falling off in employment of natives.
Industrial and community operation	Construction over. Services established. Much of labour skilled. Few natives employed.
Community diversification	Stabilization of industry. Expansion of other services, especially government. Small manufacturing.
Community maturity	Diversified economic base. Limited opportunities for expansion.

Demographic characteristics	Social characteristics
No population or only small bands of native peoples.	Unpopulated or small, isolated native communities in limited contact with white society.
Short term, summer residents. Young men, no women. If there originally, native people in the majority.	Isolated. Usually, access by air only. Shack towns without amenities. Some contact with native peoples.
Mostly single men. Some young workers with families. Very high turnover rates. Native in minority; only stable group in population.	Isolated, but easier access to outside. Trailer towns with basic amenities, and "pub." Signs of social problems among native peoples.
Slowing rate of turnover. Increasing number of married workers. Native peoples a small minority.	Improvement of housing and community facilities. Completion of roads and communications services. Reduced social problems among whites; increased among natives.
Turnover rates reduced to 60%. Young married workers in majority.	Amenities well developed. Few social problems among whites, but boredom among wives. Natives on welfare. Marked stratification.
Labour turnover stabilizes at 35%. Young marrieds in majority.	Employment for wives available. Special programs created, largely for native people.
Balanced population structure in terms of age and sex. Low rates of turnover.	Sense of community and belongingness. Whites and natives on welfare. Less racial tension.

Some recent settlements (for example, Leaf Rapids, Manitoba) seem to have been planned with such a model of development in mind. It remains to be seen whether this planning will have the desired impact on the quality of living and whether it can hasten the development of "community" and belongingness.

Conditions and innovations

The following pages offer some glimpses into the quality of living in resource communities. They present a silhouette, not a finely detailed portrait, of life in resource towns.

Also included in this section are catalogues of opportunities for further improvements in the quality of life in resource towns. The catalogues are essentially lists of innovations that can be incorporated into the initial planning of a resource town or which can be used as a basis for later remedial action to improve the quality of life in an existing resource town.

The aim throughout this section is for breadth rather than depth, and for brevity rather than detail. For these reasons, and in an effort to keep this section as readable as possible, there appear few academic qualifiers. Readers interested in pursuing any of the findings or innovations in some detail are urged to consult the material cited in the footnotes throughout this section.

Information relevant to the following areas is presented:

(a) environmental conditions
  (1) housing
  (2) townsite and other aspects of the manmade environment
  (3) natural environment
  (4) recreation
  (5) communications, access and transportation

(b) individual attributes of people
  (1) income
  (2) education
  (3) employment
  (4) physical and mental well-being
  (5) family life
  (6) personal safety
  (7) political and social participation
  (8) community

In each area the procedure will involve highlighting particular concerns, presenting information on them (including information on resident satisfaction with that aspect of life in a resource town), and information on selected relevant innovations.

Housing

In recent years a drastic change has occurred in Canada in the types of dwellings being built. In 1968, single family dwellings accounted for 38 percent of all housing starts. Six years earlier, in 1962, single family dwellings accounted for two thirds.[1]

This trend is significant because of its potential social implications. In resource towns, it may be of added significance when the fact that housing is used as an incentive to attract people is taken into account. If the ideal form of dwelling is taken to be the single family house, and if fewer single family houses are available in resource towns, then it can be assumed that the incentive to move to resource towns is diminished. Further, it may be that multiple dwellings are satisfactory for certain groups (single people, newly marrieds, and those with grown families) but that they are not suitable for families with dependent children. Since the latter are in fact the most preferred employees in the eyes of many resource companies, the dilemma is increased.

The problem of housing in resource towns, then, has several dimensions:

(a) providing attractive forms of housing (incentive effect)
(b) providing forms of housing that meet the needs of the residents and a northern environment
(c) developing policies for the management of any housing that is government or company owned.[2]

By and large the residents of resource towns would seem to be satisfied with the quality of housing available. From data collected in Fort McMurray in 1969, Matthiasson concluded that

> . . . housing conditions are considered adequate by the majority of residents . . . (T)here is a suggestion here that residents bring with them a set of expectations about housing, and these expectations are to a large extent met . . . An attempt at radical innovations in housing in the community may not have been well received by residents . . . [3]

Conditions

While information on housing in resource towns is sketchy, the following generalizations seem to be warranted.

In spite of costs which run 80 percent higher than in southern communities,[4] housing in resource towns is adequate in terms of space and basic amenities.

There are shifts in the nature of housing available as the town moves from one stage of its development to another, with a gradual reduction in the proportion of mobile and multiple units.[5] Nevertheless, resource towns tend to retain a larger proportion of these types of dwellings than southern communities.

Housing in resource towns is basically a transplantation of southern forms to a northern environment, with some anomalies resulting.

Housing in resource towns is heavily subsidized. Attractive rental or purchase agreements are used to attract and hold employees.[6]

There have been limited instances of racial and other forms of discrimination in the management of housing in resource towns.[7]

Innovations

While the housing situation in resource towns is generally satisfactory, a number of suggestions have been made for further improvements.

Residents should participate in the design of housing to give them an opportunity to realize their own preferences.

Construct homes in wilderness suburbs.[8]

Create public housing corporations to allocate dwellings on the basis of the needs of the residents.[9]

Use more locally available materials such as logs and recyclable waste materials.[10]

Better siting will reduce housing operating and maintenance costs.[11]

Involve residents in the finishing of basic dwellings through aided self-help housing.[12]

Use more modular and prefabricated dwellings built in factories and assembled on site.

Townsite

Before the 1950's resource towns happened or evolved.[1] Since then they have been planned. It has been argued, for instance, that Kitimat was the first planned new town in North America.[2]

A site plan for a resource town, like any other town, is the product of certain working assumptions about: (a) circulation patterns; (b) relative population distributions; (c) the distribution of activity and service centers; (d) neighboring and "community"; (e) basic characteristics of the natural environment; (f) the estimated life of the town; and (g) the location of the town in relation to the resource being developed.[3]

Observation of existing resource towns in terms of these seven basic areas will show the variety of forms that are available through various combinations of the alternatives in each of the seven areas. Thompson, Manitoba, for instance has: a ring-radial circulation pattern; a uniform population distribution, largely centralized activity centers; an atmosphere of communities by giving areas names which represent the status of the residents; an expectation of permanence; and close proximity to the ores of the region. La Ronge, Saskatchewan, on the other hand, has: a linear circulation pattern following the lakeshore; a dispersed and uneven population distribution; highly centralized activity centers; an atmosphere of communities; an expectation of permanence; and a location at some distance from the mineral ores of the region.

The essential problem in planning the site of a resource town is not, then, a lack of alternatives. Rather it is which alternative, of the many that are possible, is most defensible. There are a number of more specific issues here, including:

(a) location and physical design of the town
(b) social considerations underlying the plans for the town
(c) participation in the town planning process
(d) management of the townsite in accordance with the provisions of the plan.

Survey data collected by Matthiasson suggests that entertainment and recreational services are most important to residents of resource towns and that services of an educational or religious nature are much less important to them than might be thought.[4] Another preliminary survey of preferred environments for resource towns showed a strong leaning toward "wilderness suburbs."[5] Yet another survey for Gulf Minerals

showed a strong preference for *no* resource community; respondents preferred to remain in their own towns and commute to the resource site.[6] It seems reasonable to speculate that resident satisfaction with townsite plans will vary with expectations such as these.

Conditions

With regard to town planning it can be said that:

> The primary consideration in the location of resource towns has been proximity to the resource. On occasion this has led to the choice of unfavorable locations.
>
> On the whole, new resource towns tend to be well planned, though the aesthetic qualities of some are matters of debate.

Underlying many town plans are assumptions about community and "neighbouring". Planners may underemphasize the need for privacy.[7]

Planning is usually conducted by private firms working within government regulations. Few attempts have been made to involve residents in the planning process. When residents have been involved, the results appear positive.[8]

Many towns lack control over the development of the townsite and are thus vulnerable to the creation of squatter settlements adjacent to them.[9]

The making of a resource town takes time – time to build and time to make it a social-economic-political-cultural functioning town.[10]

Innovations

A number of innovations in the townsite planning process have been suggested, including:

Develop mathematical models to assess the calculable relative advantages of alternative townsite plans.[11]

Develop procedures for consultation with prospective residents *before* completion of townsite plans.[12]

Assemble lists of "amenity attributes" to be used in the design of townsites. These would serve as checklists of ideas for designers to keep in mind as they go about creating a plan for the physical environment.[13]

Develop advisory and research services, especially in the social sphere, to assist planners.[14]

Develop legislation to regulate the planning process.[15]

Environment

The central economic reason for the existence of resource towns has been that of wresting wealth from the natural environment of land, water and minerals. But economic considerations have begun to slip from their number one position on the nation's agenda for natural resources. Now and for the future, aesthetic, social, ethical and other qualitative aspects of man's use of the environment are calling for attention. Living in harmony with nature has become a priority equal to getting a living from nature.

This concern for balance between the preservation and use of nature has brought a number of long – unresolved problems to the fore.[1] Goals for both environmental quality and economic growth become more difficult to formulate. Planning is difficult for, although it is possible to estimate with some precision the economic benefits of development schemes, there is no comparable procedure for estimating their environmental impacts. Nor is there any agreed upon procedure for weighing the two factors and estimating the net benefits of development schemes. And, because of these and other conditions, the processes by which development decisions are being made are increasingly taking on an adversary character.

In the case of the development of resource towns, two issues are dominant:

(a) effect of environmental givens such as climate, temperature and topography on the planning and development of resource towns;
(b) environmental impacts of resource town development, and the procedures to be followed and the factors to be taken into account when weighing them in relation to the economic benefits of the development plan.

To a large extent, residents of resource towns seem to be satisfied with the quality of their natural environments despite complaints about harsh climates. Indeed, for many the desire to be close to nature is a significant incentive (second only to economic considerations) to move to and remain in a resource town.

Conditions

Much research has been conducted and many volumes have been written about environmental concerns. At the risk of oversimplifying an exceedingly complex issue, the following propositions seem tenable:

> Environmental "givens" are second only to technology as determinants of the relative habitability of particular regions.[2]

> Environmental constraints on resource town development are increasingly well understood, but are not always taken into account. The typical response is to attempt to overcome them through technological innovation.

Increasingly, attempts are being made to assess environmental impacts before development takes place.[3] However, the impacts examined tend to be local impacts and relatively little attention is given to dispersed impacts such as down-stream or down-wind pollution.

New communities would appear to be better off than older resource towns in terms of environmental degradation.

Innovations

Numerous proposals have been put forward in response to the need to control environmental impacts. The following are illustrative:

Planning and enforcing standards for environmental use should be a public function conducted at provincial and national levels.

Develop procedures for public participation, determining especially who is entitled to legal action in resource development proposals.[4]

Develop models for making multidisciplinary judgements of the environmental impacts of development projects.[5]

Recycle or purify waste materials – for example, composting refuse and purifying household water wastes.[6]

Combine processes to use energy more efficiently – for example, burning garbage to provide electricity.[7]

Introduce technological improvements – for example, the Swedish vacuum home sewerage system which uses less than one-tenth of the water used in conventional sewerage systems.[8]

Recreation

Residents of resource towns face two contradictory trends. On the one hand, like all Canadians, they are gaining more discretionary or leisure time. Indeed, because of the large number of unemployed housewives, it could be argued that, on the average, residents of resource towns have more discretionary time than most Canadians. On the other hand, they have more limited organized opportunities for the use of that leisure time than most Canadians and do not, like most Canadians, know how to make leisure activities meaningful in the framework of their own lives.

The recreation problem, then, is essentially one of providing people with opportunities for the satisfying or creative use of their discretionary time. That is, the recreational activity must be viewed positively and not merely as an escape from boredom.

On the whole, residents of resource communities appear to be satisfied with recreational opportunities available to them.[1] However, such a conclusion must be viewed with caution since there is some evidence to suggest that it is not really satisfying but rather only an escape from boredom – This place is so isolated you just have to go out and get interested in some sport or activity; otherwise you're stuck at home with all your free time.[2]

Conditions

From work which has been done in this area, it is possible to generalize that:

Most organized recreational opportunities are for indoor activities.[3]

Most organized recreational activities are oriented to children and adolescents. Relatively few organized recreational programs are for adults and very few for unemployed women.

Most recreational activities are organized by voluntary associations with limited support from government or industry.

Recreational activities vary with the seasons. They are organized and group-oriented in the winter months and more spontaneous and individual or family-oriented in the summer months.[4]

Commercial recreational opportunities in resource towns are limited in number and variety. Of these, the most popular is the "pub."

Innovations

A number of technological and social innovations have been suggested to deal with recreation problems in resource towns.

Play computer/ TV games at home.[5]

Use inflatable and other highly adaptable structures for recreational facilities.

Use of school buildings for recreational programs.[6]

Voluntary organizations active in recreational programs should be given public assistance.

Use the open university approach to provide educational services.

Develop dispersed crafts enterprises, along the lines of a "cottage industry."[7]

Develop special recreational programs for women.

Access

Most resource towns are located in relatively isolated settings at some distance from major centers. For this reason, and because of the attendant feelings of isolation prevalent among the residents of resource towns, improving accessibility by "decreasing the friction of space" is of great significance. It has been argued that increasing mobility or maximizing the possibility for access is more important for improving the quality of living than minimizing the need for it by creating self-contained towns.[1] The main problem, then, is the reduction of the friction of space for the movement of persons, goods and services, and messages.

Six interrelated factors need to be examined in order to determine the friction of space:

(a) distance
(b) time
(c) money
(d) convenience
(e) safety
(f) side-effects such as the effects of transportation systems on the environment.[2]

The chief problems in this area are two. The first has to do with technological innovation to overcome the friction of space. The second has to do with the costs involved, and who will pay for them. The second issue is more contentious than the first. On the one hand there are the feelings of isolation and inequitable treatment on the part of residents of resource towns. On the other hand there are jurisdictional disputes among different levels of government and their willingness to subsidize transportation and to pay for other costly, but more effective, technological advances to reduce the friction of space.

It would seem that the cost issue will have to be resolved first. A range of effective technological innovations is now available, but they will not be introduced until the willingness of different groups to pay for them is determined.

The feeling of isolation and the perceived inadequacy of communications and transportation services are the most frequently mentioned sources of dissatisfaction in resource communities.[3]

Conditions

The problems of communications, access and transportation in resource communities have been the subjects of considerable research and public controversy in recent years. From this research and controversy it can be concluded that:

The friction of space is high in resource communities.[4] Distances are great. Travel and transportation are costly, time-consuming and inconvenient.

The friction of space is highest in the earliest stages of the development of resource communities, and somewhat lower in later stages.[5]

High transportation costs, etc., contribute significantly to increased costs of living, construction, etc., in the resource communities.[6]

Some companies have begun to subsidize employees by absorbing transportation costs and making goods and services available to them at the same price as in southern settlements.[7] Other forms of subsidy include "isolation pay" and "cost of living" allowances (both of which are taxable and thus of reduced benefit to the employee).

Innovations

There are a number of technological and other innovations which might be introduced in order to reduce the friction of space including:[8]

... satellite communications and data transmission facilities;

... cable television to increase the variety of television programming;

... facsimile reproduction services to send documents, newspapers, etc. to remote communities;

... pipelines to send solids from resource towns to secondary processing centers;

... improved air, rail and automobile access to resource towns by introduction of V/STOL air bus service, mono-rails (raised above permafrost), etc.

Income

Income and wealth give individuals command over goods and services. The prospect of a higher income in resource towns is thought to be a major factor in motivating people to move to such settlements.

In the broadest sense, everyone has income in one form or another, including:

(a) earned income, from regular employment (including overtime and bonuses) and from investments;
(b) imputed value of subsidies for meals, housing, transportation, and the like;
(c) fringe benefits such as pension schemes, insurance, and the like;
(d) transfer payments.

The question of income, however, is not quite as simple as the foregoing might imply. Also important are ideas of disposable income which give an indication of the power to purchase goods and services. Indicators of disposable income include:

(a) income after taxes,
(b) cost of living.

The traditional response to the income problem in resource towns has been to provide direct or indirect subsidies to residents of resource towns. However, these now seem inadequate, if resident dissatisfaction with income in relation to cost of living is taken as the chief indicator. The sources of this dissatisfaction are various. One is that direct subsidies in the form of certain fringe benefits and "isolation bonuses" are taxable, and thus of reduced actual benefit. Another is that all residents of resource towns do not share these subsidies equally – subsidies to employees in the basic industry being greater than those to employees in service industries such as government and education. A third is that the subsidy levels may be too low.

Feelings of satisfaction or dissatisfaction with income levels in resource communities are now well documented. It is known, however, that economic motives attract people to resource towns and keep them there. To this extent, income levels can be regarded as satisfactory. With regard to the cost of living in resource communities, there is some evidence to suggest that people expect to pay more for certain goods and services in resource towns and that, if their income is

commensurately high, the higher cost of living is not a major source of dissatisfaction as one might expect.[1] They (do) not necessarily want lower costs, but costs which in their opinion (are) fair, consistent with quality, and comparable to what other homemakers in other environments (are) paying.[2]

The following propositions about the income of residents of resource towns seem defensible:

> Income from employment in resource towns is above the Canadian average.[3]

Family income in resource towns is not greater than in southern communities[4] because of limited employment opportunities for wives.

The value of certain subsidies can be high in certain cases. Employees in non-basic industries (such as teachers, hospital workers and the like) are less likely to receive such subsidies.[5]

Extensive fringe benefits are often provided by employers at significant cost to themselves.[6]

Income from transfer payments received by residents of resource communities is not likely to be different from that received by residents of other centers. However, the proportion of total *community* income received through transfer payments in resource towns is likely to be well below the Canadian average because of the resource communities' smaller proportion of people on welfare, and of unemployed and aged persons.

The cost of unsubsidized goods and services is significantly higher in resource towns. The higher costs can be attributed to two factors: transportation costs; and lower turnover of merchandise, resulting in the need for higher prices in order to maintain a profitable business enterprise.[7]

Innovations

Specific suggestions for improving the income position of residents of resource towns include:

Provide employment opportunities for women and give preferential treatment to unemployed housewives.[8]

Increase direct subsidies to all employees in resource towns or remove income taxes on these subsidies.

Provide indirect subsidies to the residents of resource towns by absorbing added costs attributable to transportation and lower rates of turnover in retail merchandising.[9]

Encourage the formation of retail merchandising cooperatives.[10]

Encourage the development of non-basic industries in the resource towns, and thus create a diversified economic base and more employment opportunities.[11]

Education

Education is a vital concern, both to the individual and for society as a whole. There are, of course, many psychologically, socially, and economically relevant questions that can be asked about education. Somewhat arbitrarily, this part will focus on education in the context of the total community. Specific concerns include:

(a) opportunities for the acquisition of basic knowledge and skills, that is, for schooling up to the end of secondary school;
(b) opportunities for advanced learning and self-enrichment through further education;
(c) the contribution of education to the social and economic life of the town;
(d) the relationship between education and employment opportunities in the town.

Available information on the satisfaction of residents of resource towns with their educational system suggests that education is not a major concern of most residents and that it is not a major source of either satisfaction or dissatisfaction.[1] It seems to be taken for granted by most residents.

Conditions

The following generalizations about education in resource towns seem tenable:

Opportunities for basic education up to the end of secondary school are adequate in resource towns.

In nearly all resource towns opportunities for manpower retraining, advanced learning and self-enrichment are either very limited or non-existent.

The educational system makes a major contribution to the social and economic life of the resource town. In most towns, schools are the focal point of activity for children and adolescents. School facilities are generally available for community use after hours. In economic terms, the impact of the educational system upon the town is also substantial, for the system is a major employer and expenditures on education increase the level of economic activity in the town.

On the average, the educational qualifications required for employment in resource towns have tended to be low. As a result: (a) the most highly educated residents of the town tend to be the least satisfied with life in the town;[2] (b) the most highly educated residents are also those who are most likely to leave, thus reducing the average level of education of the residents; and (c) because of the low education levels required for employment in the town, there tends to be a lowering of the aspiration levels of young people growing up in the town.[3]

Innovations

A number of educational innovations have been put forward which could be introduced in resource towns:

(a) Day care centers to enable housewives to take advantage of employment and recreational opportunities.

(b) Radically decentralized tiny schools designed to serve a localized group of people and to enhance feelings of "community" among members of that group.[4]

(c) Special educational programs for women, for retired people, or for persons seeking new careers.

(d) Mobile resource centers to take educational materials to resource towns.[5]

(e) Outreach programs operated by institutions in other centers.

(f) Open university programs operated on the British model to deliver educational services to remote centers via television and other media, including newspapers.[6]

(g) Multi-use facilities which serve as a focal point for the integrated delivery of a variety of human services, including education, public health, welfare, and orientation for new residents.[7]

(h) Combined work-education programs which would enable people to develop or upgrade their qualifications while earning a living.

Employment

The question of employment and, more particularly, of why some employees stay and others leave, looms large in resource towns. Rates of labor turnover are staggering and the direct and indirect costs of it are enormous – so much so that it has been claimed that the most serious threats to the viability of resource towns and the industries located in them are employment problems. While such claims are probably overstatements, there is undoubtedly cause for major concern.

The specific attributes of employment in resource communities which will be commented upon here are:

(a) hours and routine of work
(b) physical conditions and job safety
(c) labor relations
(d) potential for promotion and personal development
(e) turnover
(f) the availability of work in non-basic occupation
(g) participation in the work force
(h) unemployment and under employment
(i) hiring practices
(j) job satisfaction

Income was dealt with earlier and will not be discussed again here.

Data on job satisfaction in resource towns is more limited than in other employment-related matters. One study[1] of the needs satisfaction of mine workers in Northern Canada showed that: physiological and security needs were considered important by workers and usually satisfied; social needs were consistently satisfied regardless of the circumstances; autonomy needs were consistently unfulfilled and caused little dissatisfaction; and esteem and self-actualization needs were consistently unfulfilled and the greatest source of perceived dissatisfaction. Another study showed high degrees of satisfaction with working conditions, opportunities for advancement, salaries, fringe benefits, vacation time and job security and somewhat more mixed feelings about labor management relations and union activities.[2]

Conditions

From the mass of research which has been conducted in this area, it seems reasonable to conclude that:

On the average, employees in resource towns work the same number of hours per week and follow the same routines as employees in other centers.[3]

It would appear that the safety record of resource towns is quite good, that the incidence of occupational illnesses is low (with some notable exceptions such as the asbestos industry) but that physical conditions can be quite taxing (e.g., underground mine work).

Although precise figures are not available, most employees in resource towns are members of organized labor unions. (Labor relations in resource towns have generally been without strife.)

The potential for promotion and self-development in work in resource towns is limited. Opportunities for advancement appear to be effectively blocked because of the importation of managerial personnel.

Labor turnover in resource towns is high but does not appear to exceed the rate for comparable employment in other towns. Turnover in mining, however is low relative to all industries.[4]

The availability of work in non-basic industries is limited. Employment opportunities for wives are often non-existent.

Unemployment is uncommon in thriving resource towns, except perhaps on a seasonal basis.[5] Under-employment of non-working wives and job vacancies for men are not uncommon.

Because of their experience with high rates of turnover, many companies are developing profiles of preferred employees[6] – males, over 25, from the prairies, married, young family, relatives or close friends already in the community. These and other hiring practices (transportation, accommodation, wages paid during orientation, etc.) seem to lead to modest reductions in the turnover rate.

Innovations

Numerous attempts have been made and many suggestions have been put forward in order to improve the employment picture in resource towns.

Conduct careful personnel selection procedures to screen out persons who would be unlikely to remain in the resource town and to select those most likely to stay. Many companies have developed profiles of the preferred employee, that is, the employee who is likely to stay.

Institute incentive programs of all kinds to attract and hold people. At least one company has gone so far as to require employees to purchase homes at preferred rates on the theory that this will represent "putting down roots" and induce the employee to stay.[7]

Give preferential treatment to women whose husbands are employed in the basic industry.

Disperse small industries, and commercial facilities to provide more diversified employment opportunities.

Treat native peoples preferentially.

Eliminate worker alienating characteristics of the job and provide employees with on-the-job opportunities for self development, especially in the form of training programs for the underskilled.

Well-being

Good health and long life are among the most basic desires of all people. Indeed, all aspirations for a better quality of living are predicated on the assumption that people have sufficient health to enjoy them.

The World Health Organization has defined health as a "state of complete physical, mental, and social well-being, not merely the absence of disease or infirmity." New resource communities offer unique opportunities to realize this goal by:

(a) assuring from the earliest phase of development the provision of physical facilities;
(b) integrating health services with family, school and employment services;
(c) fostering awareness of the availability of health services;
(d) involving residents in health service planning; and
(e) introducing technological development into health services.

But new resource communities also present some special problems in the delivery of health services. They are isolated, remote from major medical facilities in metropolitan centers of the south. They are small, probably too small to warrant a full range of medical services and specialities. Their people, by virtue of the fact that they are younger, and because of higher rates of mental illness and alcoholism, have different health service needs than the average Canadian town.

However, the focus of this examination of physical and mental well-being is much less grand than the preamble suggests. Information will be presented in three main areas:

(a) physical health
(b) mental health
(c) adequacy and accessibility of health care.

Medical services in resource towns are perceived as inadequate.[1] This is a major concern of residents of resource communities, and a source of some dissatisfaction. Health services are regarded as high priority items in need of drastic improvement.

Conditions

The following generalizations about physical and mental well-being in resource communities seem tenable.

Because of the youthful character of the population in resource towns, one would expect lower morbidity and mortality rates in them when compared to other Canadian centers. Major causes of death and major types of illness could also be expected to be different.[2]

Alcohol abuse would seem to be more common in resource towns.

Drug abuse or addiction would not seem to be a problem. A study[3] in progress at the University of Manitoba does not show a disproportionately high use of mood-elevating drugs in resource towns.

There is some evidence to suggest that mental illness is more common in resource towns than in other centers, especially among unemployed housewives.[4]

Health services in resource towns are inadequate when compared to those available in major southern centers. There are fewer doctors, dentists and nurses per capita and almost no specialists.[5] Hospitals have lower rated bed capacities.

Innovations

A number of developments in health care seem to be promising in the context of resource communities, including:

(a) computer technology for the automated interpretation of medical symptoms and for the monitoring of outpatients;
(b) air ambulance service;
(c) interactive two-way remote screening and surgery control;[6]
(d) multiphased health screening and diagnosis;[7]
(e) training and use of paramedical and para-psychiatric personnel;
(f) dispersed community clinics of multipurpose centers offering a wide variety of educational, recreational and informational services in addition to health services;
(g) alcohol, drug and mental disturbance "hotlines";
(h) provision of attractive incentives to encourage medical personnel to locate in the community;
(i) developing community-based approaches to preventative medical services and to the treatment of alcoholics, the mentally ill, etc.[8]

Family

For the vast majority of Canadians, the basic social unit is the family. The family is the basic child raising unit of society, as a major factor influencing the social opportunities of the young, and as a source of personal identity and of the satisfaction of basic emotional desires. It can thus be argued that any serious examination of social concerns or the quality of living must involve an inquiry into the family.

Because of the nature of the resource community – its isolation, the transiency of the population, the relative lack of facilities and opportunities for activity outside the home – the family may be of special significance to people as *the* source of personal identity and of the satisfaction of basic emotional desires. Information presented later, though far from conclusive, strongly suggests that this is the case.

There is no direct data on satisfaction with family life in resource communities. But can some inferences be made from the profiles of the preferred employee being used by many companies? One company looks for married men with young families. Another looks for married men with young families and relatives already residing in the town.[1] Can it be assumed from this that family life in resource communities is a crucial variable when considering quality of living and that satisfaction with family life is a strong predictor of satisfaction with overall quality of living?

Conditions

Unfortunately data on the family are largely unavailable. The following limited propositions seem warranted:

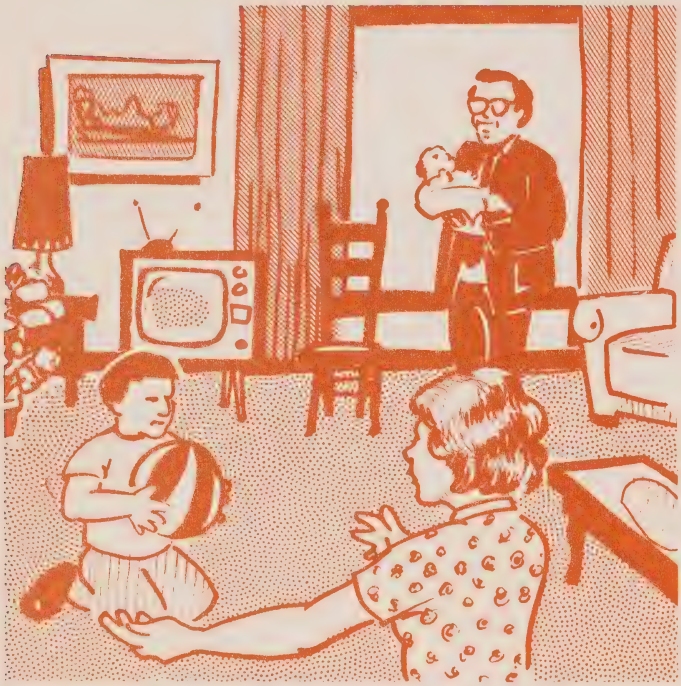
Families in resource communities are young and of average size.[2] Husbands are the heads of the household; wives remain at home. There are few single-parent families. No measures of divorce or illegitimacy are available.

The nuclear family is dominant. The number of kin-relations outside the nuclear family residing in the same town is very limited.

It is not known what effect the relatively large number of multiple dwellings has on family life in resource towns.

The nature of a wife's relationship with her children (especially the oldest child) is a strong predictor of her satisfaction with life in a resource community.[3]

Family services in resource communities are limited. Resource communities have few social workers, psychologists or psychiatrists. Family counselling seems to be left to counsellors employed in schools or to agencies such as churches.



Innovations

Sources for the support of the family in resource communities are limited. Many innovations are possible, including:

Recruit kinship extended families as a group to live and work in the town;[4]

Accept and encourage alternative family life styles, e.g., non-kinship extended families of couples, age-groups, working groups, creative groups, and therapeutic groups;

Accept non-marital arrangements for child-rearing, especially single parenthood;

Develop more extensive family counselling and family crisis services in resource towns;

Devise community based approaches to the prevention and remediation of family problems;

Provide careers for women and day care centers and community run, 24-hour child-rearing centers to support them.

Safety

How persons, groups and organizations relate to and are assisted by legal institutions are major indicators of the quality of life in a community. Basically, a civil society rests on lawful behavior and respect for the rule of law.

The measures of lawful behavior most commonly used are those reflecting violations of the law, namely offenses and convictions usually expressed in the form of rates per capita. But these counts of unlawful behavior are negative measures. There are no measures available for such things as "security from personal attack."[1]

Data in this area are minimal, and deal with:

(a) incidence of unlawful behavior
(b) police services.

The satisfaction of residents of resource communities with police services and their feelings of "security from personal attack" has not been studied. Not even tentative conclusions can be drawn about this matter.

Conditions

No studies have been done of unlawful behavior in resource towns. However, the information that is available suggests that:

Serious crimes (person to person violence, person to self violence, offenses against property, and sexual offenses) are no more prevalent in resource towns than in other centers.[2]

Liquor and traffic offenses account for more than 75 percent of all unlawful behavior as they do in most Canadian centers.[3]

Unlawful behavior among juveniles is infrequent in resource towns.[4]

The incidence of unlawful behavior is greatest amongst native peoples. A study of Churchill in 1970 showed that native peoples made up 25 percent of the population and accounted for over two thirds of the unlawful behavior in the town. Moreover, there were ethnic differences in type of unlawful behavior, with native peoples more likely to be involved in violence, offenses against property and liquor violations and less likely to be involved in sexual offenses and traffic violations than Euro-Canadians.[5]

There are no data available on police services in resource towns.

Innovations

There are some disturbing exceptions to the general pattern of relative safety, notably resource towns which have residents of native ancestry. Native peoples in resource towns or in squatter's settlements adjacent to resource towns experience a disproportionately high incidence of violence, loss of property due to fire, alcohol abuse, etc.

A number of solutions to this situation have been proposed, including:

(a) sensitivity training for police officers.

(b) employment of native police personnel, court workers, etc.
(c) television surveillance of high potential fire areas such as squatter's settlements.[6]
(d) because so many offenses are alcohol related (often estimated at over 90 percent), developing more effective procedures for the regulation of alcohol use and the prevention of alcohol abuse.

Participation

The delivery of social services in resource towns centers around several questions. What range and level of services will the residents want, now and in the future? How are the desired services to be paid for? How can residents be made aware of the services that exist and of conditions for the most appropriate use of those services? What level and range of services are feasible? How can the provision of social services strengthen the sense of "community" in a resource town?

These questions imply that there should be some form of citizen participation in social and political decision making within the town. At what level and how active is that participation now? Available evidence on participation focusses on:

(a) electoral participation
(b) participation in voluntary associations
(c) the receptiveness of the "system" to participation.

Contrary to the popular mythology of the "company towns," residents of resource communities tend to be: satisfied with local government and their opportunities for participation,[1] confident that their participation is effective,[2] and not concerned about undue company influence on local decisions.[3]

Conditions

The following generalizations about political and social participation are warranted.

Residents of resource communities are politically active in local government, perhaps more so than in other centers. More residents report:[4] voting in local elections; discussing local government matters with friends, with civic leaders and with town officials; and taking an active part in community issues.

Married men and women are more active than single men and women.[5] This suggests that the more permanent the residents are likely to be, the more they are likely to participate.

Residents of resource communities are more active in voluntary associations than residents of other communities.[6]

The possibilities for citizen participation are being expanded: for instance, the Province of Manitoba's new Northern Affairs Act makes it possible for resource towns to more easily acquire full municipal status.

Innovations

The following mechanisms increase citizen participation in social and political decision making in resource towns:

Establish TV programs to be broadcast to homes to describe local governmental and planning decision alternatives with or without immediate telephone feedback.

Create mechanisms in the delivery of social services for resident participation in the planning, management and control of those services.

Continuously sample potential preferences of residents.

Establish an ombudsman service.

Use a monitoring agency to report to the public on the impact of resource development, social innovations, etc.

Disperse services and integrate them into neighborhoods: health clinics, day care centers, schools, and so on.

Community

There is a growing awareness of the needs of individuals for identification and belongingness, for feeling that they are a part of a "community" with which they want to affiliate. In terms of quality of living in resource towns, several aspects of "community" seem important:

(a) concepts of "community" in town planning
(b) the process of "community" development in resource towns.

There is no information available on resident satisfaction with this aspect of the quality of living in resource towns. This is unfortunate for two reasons at least. First, such information would be useful in evaluating approaches to town planning. And second, the potential power of the concept seems substantial in predicting turnover, mobility, and overall satisfaction with the quality of life in resource towns.

Conditions

The following speculations about "community" in resource towns seem tenable:

(a) Ideas of "community" appear to be central, underlying concepts in the physical plans of some resource towns (e.g., Kitimat, British Columbia and Leaf Rapids, Manitoba).

(b) Friendship with other residents is the strongest single correlate of residents' satisfaction with a town.[1]

(c) Resource companies prefer to hire people who have relatives already residing in the town, that is, people who already have someone to identify with in the town.[2]

(d) Resource towns, because of their high mobility rates and inconvenient access to other centers, may have special problems in creating and maintaining a sense of "community." One study found a good deal of "neighboring" but very little community.[3]

Innovations

Many of the innovations listed in earlier parts of this report (see especially education, family life, and social and political participation) are relevant to community development. The only innovations that are listed here are ones which have not been noted already.

Welcome and orient new arrivals to resource towns.

Mark off areas of the town for use by groups with special interests.

Start a "Community Potential Center" to give focus and positive direction to community development efforts.

Native peoples

Canada's Native Peoples – Indians, Inuit and Metis – often encounter particularly great difficulties in their attempts to achieve a high quality of living.[1] This is the case no matter where they live – whether in reserves, in the metropolitan areas of the south, in resource towns.

The purpose of this section is to provide some summary information on the quality of living of Canada's Native Peoples. The information offers support for the following generalizations:

(a) Opportunities available to Native Peoples place them at a competitive disadvantage in their struggle to achieve an acceptable standard of living.

(b) Difficult as it may be to prove discrimination in individual cases, it is hard to believe that it does not exist.

(c) Native Peoples experience a high level of personal and social disorganization. Most social institutions tend to alienate, close out, become unavailable to, reject, or discriminate against Native Peoples. Since such institutions are doorkeepers to opportunity, Native Peoples cannot escape their situation and may give up. The result is "hopelessness" among Native Peoples and their estrangement from the larger society.

(d) Many of the gains reportedly made by Native Peoples are largely symbolic; most have yet to be made actual.

In any resource community where Native Peoples are involved, either as residents or as original "owners" of the resource, great care must be exercised to insure that the patterns described below are not perpetuated or reinforced.

Housing

Substandard housing is the fate of most Native Peoples. A recent survey by the Manitoba Metis Federation showed that Metis homes in Manitoba lack the basic amenities: 75.8 percent of the homes had electricity, the national average was 98.6 percent; for telephones the respective figures are 52 and 95 percent; for running water, 11 and 96 percent. Overcrowding is prevalent: Metis families have an average of 5.3 persons; the average living area is 585 square feet. Over half the homes have only three rooms, and nearly half the families have six or more members. National statistics show the same pattern among all native groups.

Employment and Economic Security

A recent survey by the Manitoba Metis Federation of 1,000 families showed that 26.6 percent were on welfare; 4.1 percent of family heads were unemployed; 15.5 percent were seasonally employed; and 36.9 percent were employed full time but of these 83.5 percent earned $4,000 per year or less. A 1965 study of 200,000 registered Indians showed a similar pattern: 75 percent of families had earned incomes of less than $2,000 per year, 45 percent had less than $1,000 per year; unemployment 10 times the national average; 36 percent of families needing relief each year, also 10 times the national average.

Education

The Hawthorn study showed that fewer than 10 percent of the Indians surveyed who were between 16 and 18 years of age were in school and that less than 5 percent of the total population had completed grade nine.

Most Native Peoples (the exact number is unknown) are at a competitive disadvantage because of a lack of language skills (literacy), job skills, general information, etc.

Physical well-being

By all standards Canadians are becoming a healthier and healthier people. Yet Native Peoples do not share equally in this good health, and appear further to be the favorite victims of certain diseases, including tuberculosis, venereal disease and alcoholism.

Selected vital statistics for Indians of treaty status in 1965:

	Total population	Native Peoples
Births per 1,000 population	24.4	40.0
Deaths per 1,000 population	7.8	10.2
Stillbirths per 1,000 live births	12.3	15.6
Infant deaths per 1,000 live births	26.3	70.4
Average age at death – males	60.5	33.3
Average age at death – females	64.1	34.7

Legal justice

Seven percent of Manitoba's population is native. Yet natives made up about 45 percent of the total population of correctional institutions in Manitoba. Not only are natives more likely to be arrested, they are also more likely to be convicted and imprisoned.

Over 90 percent of the crimes of Native Peoples can be directly or indirectly attributed to alcohol.

The Family

In 1965, the birthrate among Native Peoples was 40.0 per 1,000 population; for the total population of Canada it was 24.4. Among Native Peoples the illegitimacy rate was twice the national figure.

The average size of a native family was 5.3 persons;

non-native families have an average of 4.2 persons. Native households are also larger.

Nearly one-half the native population are under 16 years of age; fewer than 10 percent are over 65.

Native Peoples tend to marry faster and younger than non-natives, but their rate of divorces, separations, and desertions is higher.

In perspective

A number of themes or generalizations (most of which have already been stated) could be extracted from the foregoing parts of this report. By way of summary, a few of the most significant of these will be identified and discussed briefly.

(a) For the most part, new resource towns are well planned attractive communities having good recreational, educational, medical, shopping and service facilities, together with many of the social amenities that are available in southern metropolitan areas. With some specific exceptions, there are opportunities available to residents of resource towns to achieve an acceptable quality of living. The majority of residents of resource towns report being satisfied with the quality of living they are able to achieve.

(b) Resource towns are very similar to southern centers in the problems that are faced. Patterns in resource towns approximate rather closely, but not completely, the patterns in southern centers.

(c) Resource towns have an atmosphere of impermanence. The most important factor underlying impermanence in resource towns is the boom and bust character of commodity markets. The commodities that are the sole economic stimulus of resource towns – fish, lumber, oil, gas, minerals, etc. – are subject to great fluctuations in prices that create gyrations in labor demand and hence create instability. Towns created to support hydro-electric facilities are interesting (perhaps the only) exceptions to this boom and bust cycle. There has been a continuous expansion for several decades in hydro consumption.[1]

(d) The impact of labor turnover, and hence community population turnover, is great in resource towns. Though there is some evidence to suggest that turnover in mining is low relative to the average for all industries in Canada[2] and that community turnover in resource towns is no higher than in southern centers[3], the effects of that turnover may be especially acute in resource towns dependent upon a single industry.

(e) The boom and bust character of resource towns aside, probably the most important reason leading an *individual worker* to leave a resource town is because his family is not happy with life in the town. Family needs and needs for belongingness to a community, though not well documented, are probably crucial, second in importance only to the availability of employment opportunities in resource towns. It would seem that employment opportunities attract people to resource towns, and that a satisfying family life and a sense of belongingness are needed if they are to stay in resource towns.

(f) There is a lag time of five years or more between the start of the construction of a resource town and the availability of a full range of services and facilities in the town. It seems likely that the quality of life in resource towns will be at its lowest level during this period.

(g) In some cases, a fundamental problem in the development of resource towns is protecting the interests of indigenous native peoples, involving them in development decisions, providing them with long-term employment opportunities, and ensuring that the dislocations that they will experience do not have destructive effects.

(h) Theoretically, the development of new resource towns could involve the application of innovative ideas in townsite planning, housing design, the delivery of social services and so on. The country as a whole could benefit – new towns based on innovative ideas could have a powerful demonstration effect and assist in the diffusion of innovations for improving the quality of life for all people, no matter where they live. In fact, however, most of these opportunities for innovation have not been taken up. It seems that residents of resource towns bring with them a set of expectations which are met by conventional plans and services and that radical innovations are not likely to be well received.

(i) Although there are adequate opportunities for people to achieve a satisfactory quality of living in resource towns, there are some significant exceptions to this general pattern. It seems likely that these exceptions would contribute to an individual's decision to leave a resource town in search of a more satisfying place to live. Problems include:
   i) a limited opportunity structure. Employment opportunities for women and promotion opportunities for all workers are restricted.
   ii) a high cost of living whether costs are measured in absolute terms or in relation to income;
   iii) a feeling of isolation and the problems associated

with inconvenient access to other centers;

iv) an incidence of mental illness and alcohol abuse that is probably well-above Canadian averages;

v) a concern about the adequacy of health services and a general lack of family services;

vi) a lack of "community" and of a feeling of "belongingness";

vii) a disproportionately high incidence of individual and social problems amongst Native Peoples living in resource towns.

(j) The mythology of the instant town is just that – mythology. The full development of resource towns takes time – time to plan and construct, time to become a social-economic-political-cultural functioning center, time to mature, time to return dividends to investors, and so on.

Dilemmas in planning

Developers of natural resources in remote regions of Canada face a number of crucial questions[1], including:

(a) Is the exploitation of the resource economically viable? Should the resource be developed?

(b) What are the likely environmental impacts of development? Are the benefits of the development judged to outweigh its costs?

(c) How large a workforce is required? Should a town be built to accommodate workers, people in service industries, and their families? Should the town be a permanent one?

(d) Who are the people and agencies affected by the development? How should they be involved in the development process?

(e) What is the likely impact of development plans on the social, physical and psychological well-being of future residents? What are the characteristics and preferences of future residents? How much importance should be attributed to these factors?

These are contentious questions. Their normative dimensions in particular have led to a good deal of controversy and debate, both at a general level and in the context of particular communities. The purpose of this section is to briefly examine these questions. What is at stake is a choice of working assumptions and dominant values that will guide the development of resource towns. The importance of resolving these questions is, needless to say, high.

Economics and ecology

Until recently, resource development schemes have been viewed as innocent until proven guilty. But we are now in the process of sharply upgrading environmental values and development schemes are often judged as guilty from the outset. Non-development is being proposed as an alternative

to the exploitation of resources.

Essentially, the dilemma here is one of arriving at some balance between the preservation and use of the environment. Economic growth through the development and exploitation of natural resources is valued. But so also is the preservation of the quality of the natural environment and avoiding destruction of the environment. The issue, then, is one of trying to reconcile two sometimes conflicting objectives – it involves searching for development activities which will result in both maximum environmental quality and maximum economic reward.

Permanent and temporary towns

In early years it was assumed that each resource development required its own town to accommodate its workforce and their families. This is now being questioned. The costs of developing a permanent townsite are enormous. New communications and transportation technologies have opened up alternatives previously unavailable such as commuting. The boom and bust cycle and its attendant effects – the death of towns and the relocation of residents, almost daily tension in the lives of people, the high costs of labor turnover, and so on – are no longer acceptable.

The problem, then, has two main aspects. The first is determining whether a new, permanent community can be justified for a particular location or whether an alternative must be found. The second is one of providing security and stability to people employed in the towns, whether the towns are temporary or permanent. Numerous solutions have been proposed for both, such as: the development of regional centers with a diversified economic base which could also serve as commercial and residential towns to service several resource sites; the creation of non-permanent communities which could be moved to other sites when particular resource operations terminate; and so on. A thorough analysis of many social economic and technological factors needs to be made before deciding on the type of town best suited to each situation.

Participation in development

Traditionally, the role of citizens and governments in the development of resources and resource towns has been rather passive. Most of the initiatives have been left to resource companies in the private sector and the nature of developments has been determined largely by them.

Aspects of this persist in the present. There are still many indications of a "colonial office" or "company-town" approach to resource development. But there are some indications that a shift is in progress, that the development of resources and resource towns is far too important to be left to private (often foreign) companies, that governments should play a more active role in development (participating as well as merely regulating), and that citizens should have an opportunity to participate in decision making before development plans are finalized.

The problem here, then, involves determining the respective roles of governments and resource companies in development and in devising opportunities for citizen participation no matter which of the two is responsible for resource development.

Social factors in planning

Historically, resource towns have been viewed in purely economic terms:

> Unfortunately, in our society the new towns . . .are planned for the economic function they have to perform . . .with practically no thought being given to the type of person who will be sheltered there and who has to create out of an engineering achievement a viable human community.[2]

Very few favorable accounts of the "good life" in such communities have been written. It is very difficult to attract and maintain a reasonably stable population in them. As a result, there is emerging a greater concern for social and human factors in the development of resource towns. Indeed, some developers have committed themselves to examining and dealing with social and human factors before

proceeding with the construction of plant facilities.[3] Thus, while the primary motives in resource town development remain economic, there has been a significant elevation in the importance attached to social and human factors.

The problems here can be expressed in the form of questions. *When* should social factors enter into the planning of resource developments? How much importance should be attributed to them? What is the impact of the proposed development on the physical, social and psychological well-being of future residents? What are the preferences of future residents?

A final scenario

This report was introduced with a scenario describing the typical present pattern of the development of resource towns. This scenario describes an alternative pattern.[1] Its prominent features are an emphasis on social factors in planning and an attempt to incorporate a sample of the innovations listed earlier in the report.

Imagine a large and unpopulated area in the interior of British Columbia, some 350 miles north of Prince George. The Alaska Highway passes through the area, but there are no centers of any size. The area has large reserves of coal and of minerals in the gold and iron groups. It is also a wilderness area, and because it is accessible by road, has been suggested as the site of a provincial park by conservationists.

By 1977, the upward movement in world gold prices and the burgeoning demand for coal had made the development of the area's mineral resources economically attractive. The World Mineral Corporation applied to the British Columbia government for permission to operate in the area. It wished to do a final survey of the area and to establish mines and a concentrating plant as quickly as possible.

The initial reaction of the government to the request was favorable but it bowed to public pressure and created a Study Board to examine the proposed development before making a final decision. The terms of reference of the Board were broad and included study of: the environmental impacts of the development (especially strip mining for coal); alternative townsites; public opinion; and government participation in the venture. The Board was to report in six months.

The public hearings of the Board created a good deal of controversy about the development. In the end, however, the Board recommended approval of the development and urged that the government: seek a 51 percent interest in the venture; establish and enforce strict environmental standards; and create a Crown corporation to undertake the development. It also suggested that the townsite should be located along the Alaska Highway at some distance from the mine sites. It was felt that such a location would foster the economic diversification of the town, and surveys of potential employees had indicated their willingness to

commute to the mines from a central town in the area.

At first the World Mineral Corporation was reluctant to be a minority shareholder in the project. But it eventually entered into a development agreement with the government. The government, despite some opposition in the legislature, passed legislation in 1978 making necessary funds available and creating a Crown corporation to handle the development. Work was to begin as quickly as possible.

The Crown corporation set out to obtain as clear a picture of the proposed development as possible. It found that:

(a) The overall cost of the development would exceed $500 million

(b) The mines and smelters could be brought into operation in four years, but at least five years would be necessary to complete the townsite.

(c) Each mine would have a life of about 20 years and all would be mechanized and automated as much as technology would allow.

(d) The work force in the mining industry would number about 2,000 employees. The number of people employed in the town could be expected to increase with economic diversification. Thus the town would have to accommodate about 10,000 people.

(e) Eventually, 85 percent of the workers would be married and have young but small families. Most would be rather well educated. Nearly all would come from southern centers, leaving behind long standing friends and close relatives.

The melding of these people into a stable and satisfied community concerned the Crown corporation as much as bringing the mines into operation. It was decided that a well sited, carefully planned, well constructed, attractive community with good recreational, shopping, educational, medical and other services was essential. In addition, the corporation decided to:

(a) construct a wide variety of housing units and encourage the purchase of homes by workers;

(b) construct recreational facilities at the earliest possible date and build an access road to a nearby lake;

(c) construct a community center for town hall meetings, for educational and medical services, and for recreation. Shopping services would be adjacent to the center and scattered throughout the town;

(d) provide employment opportunities for wives of mine workers;

(e) establish day care facilities;

(f) promote tourism to the area.

Working with these and other concepts, the corporation had plans produced and began construction of the mines, smelters and townsite in 1979. Initially, most of the workers were housed in temporary accommodations, but as construction proceeded the number of permanent structures increased and replaced the temporary facilities.

The mines and smelters were the first to be completed. They came into operation in 1983. The townsite was not completed until 1985.

During the construction phase the corporation had been beset by problems. Labor turnover was high, and nothing it tried seemed to work. By 1987, however, the community showed sign of stabilizing. Labor turnover was down. There were virtually no unemployed people in the town. Roughly 40 percent of the population was under 14 years of age. Services appeared to be operating well.

The future of the town seems relatively secure. Several long term contracts have been negotiated, thus assuring some stability of production and employment in the mines. Tourism is growing rapidly, and the town is becoming something of a transportation center. Most of the people own their own homes. A recent public opinion survey showed that 25 percent of the residents planned to stay at least 10 years, another 21 percent planned to stay for only a

few years, and the other 54 percent had no plans one way or the other and expressed a willingness to stay if the circumstances allowed it.

Notes

A scenario

1 This scenario is completely hypothetical. It is intended to illustrate some of the factors involved in the typical development of resource towns.

Approach

1 Ira M. Robinson. *New Industrial Towns on Canada's Resource Frontier.* Chicago: University of Chicago, Department of Geography, 1962.

Framework

1 Douglas G. Harland, *Social Indicators: A Framework for Measuring Regional Social Disparities.* Ottawa: Department of Regional Economic Expansion, 1971.

2 *Ibid.*

3 Recent examples include: Organization for Economic Cooperation and Development. *Programme of Work on Social Indicators.* Paris. Series of documents since 1971; Economic Council of Canada. *Design for Decision.* Ottawa: the Council, 1971; J.A. Riffel. *Social Reporting in Alberta.* Edmonton: Human Resources Research Council, 1972; and Statistics Canada. *Perspective Canada.* Ottawa: Queen's Printer, 1974.

Context

1 Institute of Local Government, Queen's University. *Single Enterprise Communities in Canada.* Ottawa: Central Mortgage and Housing. 1953.

2 It would seem that many of these propositions apply to the experience of other nations, especially Australia. See UNESCO, *Man and the Environment: New Towns in Isolated Settings.* Kambalda, Australia: Unesco, 1974.

Stages in development

1 Case studies exemplifying this developmental process can be found in Nigel Richardson, *A Tale of Two Cities,* United Kingdom: Town Planning Institute, 1961 and in UNESCO, *Op. cit.*

2 C.C. Zimmerman, ed. *Symposium on the Great Plains of North America*. 1967.

Housing

1 M. Lipman. "Housing and Environment." *Habitat,* 12, 1969.

2 A.G. Onibokun. "A System for Evaluating the Relative Habitability of Housing." *Ekistics,* 36. 1973.

3 J.S. Matthiasson. *Resident Perceptions of the Quality of Life in Resource Frontier Communities.* Winnipeg: Center for Settlement Studies, University of Manitoba, 1970, 15–16.

4 Ministry of State for Urban Affairs. *New Resource Communities.* Mimeo. Ottawa: Ministry of State for Urban Affairs, 1974.

5 *Ibid.* p. 17.

6 J.M. Percifield. *New Townsite Visitation Study.* Mimeo. Shell Canada, Employee Relations Department, October, 1973.

7 P. Deprez. *The Pine Point Mine and the Development of the Area South of Great Slave Lake.* Winnipeg: Center for Settlement Studies, University of Manitoba, 1973.

8 D. Porteous. "Which Environment Would You Prefer? " *Habitat,* 17, 1974.

9 Such a corporation is alluded to in Lipman, *Op. cit.* and mentioned in J.M. Percifield, *Op. cit.*

10 All of the western provinces are actively studying, perhaps even promoting, log housing. Numerous press reports have appeared in the last two or three years about the use of recycled waste for housing materials.

11 A. Dakin and others. *An Environment Motivated Plan for Multiple Resource Use Along Highway 391.* Winnipeg: Center for Settlement Studies, University of Manitoba, 1973.

12 P. Crooke. Towards Participatory Urban Settlement and Housing Systems. *Ekistics,* 38. 1974.

Townsite

1 For an examination of the evolutionary character of early isolated towns see F. Duerden. *The Evolution and Nature of the Contemporary Settlement in a Selected Area of the Yukon Territory.* Winnipeg: Center for Settlement Studies, University of Manitoba, 1971.

2 Nigel Richardson, *Op. cit.*

3 B. Miller and others. *Innovation in New Communities.* Cambridge: M.I.T. Press, 1972.

4 Matthiason, *Op. cit.*

5 Porteous, *Op. cit.*

6 International Surveys Limited. *An Analysis of Eight Group Discussions on a Proposed Employment and Accommodation Plan for a New Mining Development in Northern Saskatchewan.* Prepared for Gulf Minerals Canada Ltd., April 1972.

7 Richardson, *Op. cit.* Ryant, in an unpublished study of neighboring in resource towns, appears to share this view (Winnipeg: Center for Settlement Studies).

8 Percifield, *Op. cit.*

9 R.G. Bucksar. "The Problem of Squatters in the Northland." *Habitat,* 13. 1970.

10 N. Pressman. *New Towns.* Waterloo: Division of Environmental Studies, University of Waterloo, 1972.

11 Dakin and others, *Op. cit.*

12 For example, Percifield, *Op. cit.*

13 Such a list has been compiled by C. Perin, *With Man in Mind,* Cambridge: M.I.T. Press, 1970.

14 Such as the urban observatory project outlined in Appendix A.

15 A recent example is Manitoba's new Northern Affairs Act, passed in early 1974.

Environment

1 For an elaboration of the issues here, see E. Finkler, *Non-Growth as a Planning Alternative.* Washington: American Society of Planning Officials, 1972.

2 J.E. Page and M.E. Carvalho. *Habitability in the Boreal Zone of Canada.* Winnipeg: Center for Settlement Studies, University of Manitoba, 1973.

3 See, for instance, Environmental Social Program, Northern Pipelines. *Regional Impact of a Northern Gas Pipeline.* Ottawa: Information Canada, 1973.

4 Each year, one issue of *The Journal of the American Institute of Planners* is devoted to a useful review of this and other legal questions. The most recent one appeared in Volume 40, July, 1974.

5 G.L. Peterson and others. "Assessment of Environmental Impacts." *Ekistics*, 37. 1974.

6 For a listing of some of these see Miller and others, *Op. cit.*

7 *Ibid.*

8 *Ibid.*

Recreation

1 Matthiason, *Op. cit.*

2 D. Porteous. *Residents Attitudes Toward and Perceptions of the Quality of Life in British Columbia Resource Towns.* Victoria: Department of Geography, University of Victoria, 1974.

3 D.B. Sealey, University of Manitoba. Correspondence.

4 Ryant, *Op. cit.*

5 Many of these are now available from electronics firms

6 Useful examples of this might be found in several Indian reserves in Canada.

7 Frequently proposed by the Manitoba Metis Federation and to be a program of the Metis Cultural College to be located in Camperville, Manitoba.

Access

1 H. Blumenfeld. "Criteria for Judging the Quality of the Urban Environment." In Schmandt and Bloomberg, eds. *The Quality of Urban Life.* Beverly Hills: Sage, 1969.

2 *Ibid.*

3 Matthiasson, *Op. cit.*

4 W.C. Wouden. Transportation and the Settlement Frontier in the Mackenzie Valley Area. *North.* 13. 1966.

5 E.P. Stephenson. Transportation in Mid Canada Development. *Mid Canada Development Conference.* Thunder Bay: Lakehead University. Proceedings.

6 Ministry of State for Urban Affairs, *Op. cit.* See also J.R. Seldon. *A Note on the Cost of Living in the North.* Winnipeg: Center for Settlement Studies, University of Manitoba, 1972.

7 For instance, Churchill Falls, Labrador.

8 The innovations listed in this section are frequently mentioned in the press and in scientific literature. More information and references on them can be found in Miller and others, *Op. cit.*

Income

1 Matthiasson, *Op. cit.*

2 N.A. Barclay and others. *Adequacy of Selected Goods and Services as Evaluated by Homemakers in a Resource Frontier Community.* Winnipeg: Center for Settlement Studies, University of Manitoba, 1974.

3 J.A. MacMillan and others. *Determinants of Labor Turnover in Canadian Mining Communities.* Winnipeg: Center for Settlement Studies, University of Manitoba, 1974.

4 Speculation on my part.

5 MacMillan and others, *Op. cit.*

6 *Ibid.*

7 Seldon, *Op. cit.*

8 See Percifield, *Op. cit.*

9 As is done, for instance, in Churchill Falls, Labrador.

10 G. Fields and G. Sigurdson. *Northern Cooperatives as a Strategy for Community Change.* Winnipeg: Center for Settlement Studies, University of Manitoba, 1972.

11 There have been many specific suggestions including dispersed craft enterprises, tourist services, etc.

Education

1 Matthiasson, *Op. cit.*

2 J.E.W. Jackson and N.W. Pouchinsky. *Migration to Northern Mining Communities: Structural and Social-Psychological Dimensions.* Winnipeg: Center for Settlement Studies, University of Manitoba, 1971.

3 This line of reasoning has been developed in the case of Indian reserves in remote areas and seems applicable to some resource towns. See P. Deprez. *Education and Economic Development.* Winnipeg: Center for Settlement Studies, University of Manitoba, 1973.

4 P. Goodman. *New Reformation.* New York: Random House, 1970.

5 Now being done by the libraries service in Saskatchewan and by the Museum of Man and Nature in Manitoba, to mention only two examples.

6 Currently being initiated on a limited scale in Alberta By Athabasca University, Edmonton.

7 One example is the Parkway Project in Philadelphia, Pennsylvania.

Employment

1 J.M. Cram. "Differential Needs Satisfactions of Mine Workers in Northern Canada." *Canadian Journal of Behavioral Science,* 4. 1972.

2 J.S. Matthiasson. *Resident Mobility in Resource Frontier*

Communities. Winnipeg: Center for Settlement Studies, University of Manitoba, 1971.

3 MacMillan and others, *Op. cit.*

4 *Ibid.*

5 *Ibid.*

6 Percifield, *Op. cit.*

7 *Ibid.*

Well-being

1 Matthiasson, *Loc. cit.*

2 Inferred from Canadian age-specific death rates.

3 J. Nickels and J. Ledger. Winnipeg; Center for Settlement Studies, University of Manitoba, unpublished data.

4 P.W. Burvill. "Health and the Environment in New Towns." In *Man and the Environment: New Towns in Isolated Settings.* Kambalda, Australia: Unesco, 1974.

5 L.C. Grisdale. *Inequalities of Opportunity in Health Services in Alberta.* Edmonton: Human Resources Research Council, 1969.

6 A possible outgrowth of one of the series of experiments being planned for in the use of Canada's next satellite. The experiment will take place in remote parts of British Columbia linked by satellite to a central hospital in the Queen Charlotte Islands.

7 An example of this, the Kaiser Oakland Medical Center, is described in Scientific Quarterly, October 1970.

8 Such community-based approaches are in the early stages of development. But they do seem to work, as evidenced by the success of the alcohol abuse prevention program

operated on the Hobema Indian Reserve in Alberta and by the community approach to the treatment of the mentally ill in Saskatchewan.

Family

1 Percifield, *Op. cit.*

2 Ministry of State for Urban Affairs, *Op. cit.*

3 J.B. Nickels, unpublished data, Center for Settlement Studies, University of Manitoba.

4 See Percifield, *Op. cit.* It has been rumored that Inco has received permission to bring 200-300 Portugese workers and their families to Thompson, Manitoba. Presumably, many of these workers would form kinship extended families.

Safety

1 Some work is being done to improve upon this situation. See R. Evans, *Policy Indicators for Canadian Public Order and Safety*. Ottawa: Economic Council of Canada, 1973.

2 Inferences based on rough calculations on data in V. Matthews, *Socio-Legal Statistics in Alberta.* Edmonton: Human Resources Research Council, 1972.

3 *Ibid.* See also C. Jayewardene. *Crime and Society in Churchill.* Ottawa: Center of Criminology, University of Ottawa, 1972.

4 *Ibid.*

5 Jayewardene, *Ibid.*

6 See Miller and others, *Op. cit.*

Participation

1 Matthiasson, *Op. cit.*

2 P. Wichern and others. *The Production and Testing of a Model of Political Development in Resource Frontier Communities.* Winnipeg: Center for Settlement Studies, University of Manitoba, 1971.

3 Porteous, *Op. cit.*

4 Wichern and others, *Op. cit.*

5 *Ibid.*

6 *Ibid.*

Community

1 Jackson and Pouchinsky, *Op. cit.*

2 Percifield, *Op. cit.*

3 Ryant, *Op. cit.*

Native Peoples

1 The information presented in this section is drawn from a paper written by the author in collaboration with J. Burelle and J. Kelly entitled "The Quality of Life of Native Peoples: A Discussion Paper." Winnipeg: Center for Settlement Studies, University of Manitoba, 1972.

In perspective

1 An observation of J.A. MacMillan on the first draft of this report.

2 J.A. MacMillan, *Ibid.*

3 R.E. DuWors and others. *Studies in the Dynamics of the Residential Populations of Thirteen Canadian Cities.*

Winnipeg: Center for Settlement Studies, University of Manitoba, 1972.

Dilemmas in planning

1 In this section I have at times borrowed freely from L.B. Siemens, *Single Enterprise Community Studies in Northern Canada.* Winnipeg: Center for Settlement Studies, University of Manitoba, 1973.

2 D.L. Markale. Cited in Siemens, *Ibid.*

3 This idea underlay the survey of International Surveys Ltd. for Gulf Minerals in Saskatchewan noted above. Apparently such a commitment exists in the case of the further development of the Athabasca Tar Sands. Numerous other examples could be cited.

A final scenario

1 This scenario is based in part on A.E Moss, *People and Resource Communities.* Unpublished paper. Victoria, B.C.: Underwood McLellan Associates, 1974.

Appendix A: A source list of Canadian plans and proposals

This source list of Canadian plans and proposals is drawn from the files of the Intergovernmental Committee on Urban and Regional Research. It attempts to identify a sample of research programs, policy proposals and government activities which may be useful in a resource community context. Few of the programs listed here have been developed specifically for resource communities; nevertheless they appear applicable in that context.

The material here is organized in several categories:

(a) research programs
(b) attempts at regional or comprehensive planning
(c) town planning
(d) citizen participation
(e) housing
(f) transportation
(g) recreation.

Entries are arranged in chronological order.

Research programs

Ontario. *Regional Development Atlas of Ontario.* Regional Development Branch, Department of Treasury and Economics. Toronto. 1970.

Shows growth of various parts of province relative to average provincial performance. Growth over a 15-year period (1951–1966) is measured in terms of 63 social and economic indicators.

Alberta. *Socio-Economic Analysis of Isolated Communities in Northern Alberta.* Head, Research and Planning Division, Human Resources Development Authority. Edmonton, 1970.

Many of the isolated communities in Northern Alberta are characterized by inadequate housing, poor health care, low levels of education, small and highly fluctuating levels of income and high dependence on welfare assistance. The study was undertaken for the purpose of developing objective criteria for the rationalization of the settlement pattern in remote areas and to reduce the isolation of the people involved from economic opportunities and government services.

Canada. *Mackenzie Delta Research Project.* Northern Science Research Group, Department of Indian Affairs and Northern Development. Ottawa, 1970.

The Mackenzie Delta Research Project has been underway since 1965. Its purpose is to describe and analyze the social and economic factors influencing development in the delta regions of the Mackenzie River.

Manitoba. *Northern Task Force.* Planning and Priorities Committee of Cabinet. Winnipeg, 1970.

In October 1969, the Manitoba legislature set up a special Committee on Northern Affairs to act as a *task force,* and report on the economic, cultural and industrial requirements for the development of northern Manitoba. Its findings, based on the information collected during the public hearings, were published in March 1970, as an interim report to the Manitoba legislature. The 49 recommendations of the interim report deal with: basic community services such as housing, electricity, pollution control, police services, liquor control and recreation; transportation and communications; health and social services, including dental care, ambulance service, hygiene; welfare, senior citizens' accommodation and correctional services; education; economic development, including incentives to local industries in isolated communities; and resettlement programs.

Manitoba. *The Interlake Fact Digest.* Information Section, Continuing Programs Secretariat, Planning and Priorities Committee of Cabinet. Winnipeg, 1971.

The Interlake Fact Digest is a 200-page book of tabular data, maps and charts describing population, physical resources, education, employment, incomes, commercial and farm economic activity and the inter-relationship among these elements. Local government subdivision data are summarized permitting convenient intraregional comparisons. Tables are arranged according to their relationship to Resource Base, Resource Improvement, Resource Use, and Resource Performance. Data obtained covered the 1968 calendar year. Standard statistical sampling methods were employed. Sampling ratios were based on the requirement that estimates of the mean value of income be within 20

percent of their true value with 90 percent confidence for rural farm, rural non-farm and urban categories within the local government subdivisions of the Interlake area.

Resources Directory Project. Canadian Council of Resources Ministers. Montreal, 1971.

A new information clearing-house service, concerning the management of natural resources in Canada developed by the Canadian Council of Resource Ministers. The key information input into the system is a directory of persons (and of the organizations with which they are connected) concerned with the management of natural resources. For each entry into the directory, a detailed record of interests and activities has been compiled.

Man in the North. The Arctic Institute of North America. Montreal, 1971.

In March 1969, the Arctic Institute organized a conference in Hanover, New Hampshire, to discuss the possibility of establishing a research program concerning community development in the north. In the spring of 1970 as a follow-up to the Hanover Conference, the *Man in the North* project was launched. Following a conference on community development, at Inuvik, N.W.T., in November, 1970, several areas of research were identified. Task forces were set up to study communications; a community centre; education (the employment of native northerners as teachers, the preparation of southern teachers for work in the north, community involvement in the school at the local level); preparation of a northern history book.

Alberta. *Manpower Programs Research.* Research and Planning Division, Human Resources Development Authority. Edmonton, 1971.

The Research and Planning Division of the Alberta Human Resources Development Authority has produced two short research monographs on manpower programs. The first one, entitled "Comprehensive Manpower Mobility Program," suggests ways of retraining men in rural areas before introducing new industrial opportunities. It is hoped that the skills acquired through the program will make the applicant more mobile, while supporting social programs will help his

family to adjust to a new life. The second study, entitled "Canada Manpower – Conflict Areas," analyzes the breakdown of Canada Manpower programs in Alberta and suggests ways to use the programs to the better advantage of Albertans. It is proposed that the Canada Manpower programs be used to pay for all academic upgrading of adults, no matter what the occupational goal may be, and that the province supplement manpower training programs with classes of their own on social problems and social adjustment.

Focus North. Focus North, P.O. Box 580, Yellowknife, 1973.

Municipal representatives from the Yukon and Northwest Territories, representatives from the Province of Alberta and the City of Edmonton, and representatives of Yukon, Northwest Territories and Edmonton Chambers of Commerce are currently undertaking an operation called Focus North. The objective of Focus North is that of central coordinator to facilitate the exchange of information and to increase communication among the various interest groups represented. Focus North will thus serve as an aid in overcoming duplication of research and effort by provincial and territorial interests studying the north.

A Report on Livability, Vancouver, British Columbia. Director of Planning, Greater Vancouver Regional District, 2294 West Tenth Avenue, Vancouver, 1973.

The Greater Vancouver Regional District (GVRD) initiated a Livable Region Program in 1970. One of the objectives of this program is to stimulate citizens and community groups to play a major role in identifying the issues of livability and to develop policies capable of dealing with them. The first report of the Livability Region Program was published in November 1972. By that time, the Planning Committee of the GVRD had conducted a total of 44 meetings with community groups throughout Greater Vancouver. Each of the sections of this report deals with a specific issue raised during these community meetings, and contains a summary of the main statements made. They form the basis of 30 policy statements developed by the GVRD Planning Committee. A number of policy committees

have now been set up to review these statements and to report in the fall of 1973 on objectives for each policy area, to prepare operational policies, and to set out the implications. Between the fall of 1973 and the spring of 1974 these proposals would be worked out to become the first Livable Region Programs/Plans.

Canada. *Science and the North.* The Secretary, Sub-Committee on Science and Technology, Advisory Committee on Northern Development, Department of Indian and Northern Affairs. Ottawa, 1973.

This report contains background material, statements and other relevant information originating from the Seminar on Guidelines for Scientific Activities in Northern Canada, sponsored by the Sub — Committee on Science and Technology of the Advisory Committee on Northern Development, an interdepartmental committee of the federal government. The Seminar was held to assist in developing guidelines and priorities for research, investigations, surveys and data collecting considered part of the process for acquiring knowledge and information for planning the development and management of resources and the administration of northern Canada. Northern scientific activities were divided into six major areas for discussion: northern people, natural environment, renewable resources, non-renewable resources, technology, and international research.

Manitoba. *Winnipeg Urban Observatory Project.* Deputy Minister (Research), Department of Urban Affairs, Winnipeg, 1974.

A proposal for the establishment of a Winnipeg Urban Observatory is currently being considered by the Manitoba Department of Urban Affairs. The purposes of this project, if approved, would:

(a) facilitate local and provincial government access to university and other research resources, useful for understanding and solving particular urban problems;
(b) promote a coordinated program of continuing urban research, based on practical experience and relevant to urban Winnipeg environmental and developmental problems;

(c) encourage university and general research agencies to relate research and training activities more effectively and efficiently to urban Winnipeg concerns and the conditions of urban living;
(d) act as a prototype for an eventual network of urban observatories in other Canadian urban centres.

The concept of urban observatories was first established by the American League of Cities in the late sixties. The Winnipeg observatory would provide a brokerage service to the City of Winnipeg and to the Government of Manitoba for the coordination of research resources in the area or urban and city problems. The project would also ensure that research was carried out and that the results were in a form useful to the requesting organization.

Research into Measurement of Development, Kent County, New Brunswick. New Brunswick NewStart Inc., P.O. Box 911, Moncton, 1974.

A report published recently by New Brunswick NewStart Inc. describes the results of research into the measurement of the effect of a number of federal and provincial programs on the social and economic development in a predominantly rural society. The period covered is 1969–1973. New Brunswick NewStart was active during these years in Kent County. The report provides a detailed description of Kent County and its socio-economic profile. On the basis of a comprehensive review of various existing measurement techniques, it develops a methodology for measurement of a series of social and economic indicators relevant to the conditions in the County. The results of the research are presented in numerous tables and diagrams highlighting the various aspects of the methodology used, and the relationships that can be identified between government programs and changes in a number of indicators.

Canada. *Measurement of the Value of Economic Activity in the North.* Program Development Section, Northern Program Planning Division, Department of Indian and Northern Affairs, Ottawa, 1974.

The accounts provide estimates of the aggregate value of economic activity in the territories, of expenditures in the territories, as well as the flows of revenue and expenditures

between the major sectors that are identified. These sectors are the household, the federal government, the territorial (and local) government, the rest of the world (or non-resident), and the capital finance accounts. Although the business sector is not identified as such, the financial flows between it and the other sectors are identified in the accounts. The report describes the concepts used in building up the accounting framework, and presents statistics for the years 1967 to 1970 together with a detailed description of sources and methods.

Attempts at regional or comprehensive planning

Northeast New Brunswick Economic Development Plan. Coordinator, Program Development and Evaluation, Community Improvement Corp., P.O. Box 428, Fredericton, 1970.

The FRED agreement for Northeast New Brunswick signed early in 1966, aimed at the creation of an *approximate statistical balance* between regional economic employment opportunities and labour supply, and substantially *improved average family incomes.* The basic premise of the agreement was that these objectives could be achieved *without*: (a) major out-migration, and (b) substantial public investment in the job creation effort. The assumption was made that the establishment of a mining/smelting/processing complex in the region would create 1,500 direct jobs and assist in the creation of 4,500 indirect jobs. Both the basic premise of the agreement and the employment assumption proved unrealistic. It was found that private investment could not handle the job alone. Between 1,800 and 1,900 direct jobs were created by the now established mining/ melting /processing complex. However, experience to date indicates that the number of indirect employment opportunities that may be created by this complex is much below expectation. It was also found that special infrastructure provisions, such as those made for education and transportation, should be extended to include housing and manpower programs. Existing national programs in these fields could not be readily applied to the conditions in this region.

Ontario. *Regional Development Program.* Director, Regional Development Branch, Department of Treasury and Economics. Toronto, 1970.

Design for Development, a white paper setting down the objectives and administrative machinery for regional development in Ontario, was published in the spring of 1966. It was followed in December 1968 by another white paper, *Design for Development, Phase II* which concerned the relationship between regional development and regional government. Twelve steps, beginning with refinement of provincial goals, are involved in the planning process for each region. After an evaluation of regional potential and the formulation of regional development objectives have been completed (end of step 7) and again after preparation of a recommended regional development policy (end of step 12) the Regional Development Councils and Regional Advisory Boards as well as all interested municipalities are asked for detailed reviews.

Manitoba. *Regional Development Plan for the Interlake Region.* ARDA–FRED Coordinator, Continuing Programs Secretariat, Planning and Priorities Committee of Cabinet. Winnipeg, 1971.

The overall aim of the 10-year federal-provincial plan (signed in May 1967) for the comprehensive rural development of the Interlake region is to increase the level of income and the standard of living of the people presently residing in the area by: (a) developing the area's economic potential and infrastructure; (b) increasing the population's awareness of new opportunities and equipping it to take advantage of them.

The main elements of the development strategy are: (a) rationalization of the *resource-based industry* (agriculture, fisheries) which will free and displace part of the labour force; (b) *education and manpower training* to increase productivity and to equip those displaced to take advantage of new employment opportunities and to assist their transition to an urban-industrial life-style; (c) infrastructure improvements (transportation, housing, recreation and others); (d) creation of new employment opportunities. The plan commits the two governments to share the expenditure of over $85 million over 10 years ($35.5 provincial and

$49.5 federal). Implementation is well underway. Emphasis on education and training of the youth of the Interlake area has emerged as a major condition of the plan's success.

Alberta. *Lesser Slave Lake Area Development Plan.* Research and Planning, Human Resources Development Authority. Edmonton, 1971.

A federal-provincial special area agreement to assist in the social and economic development of the 24,000 square mile Lesser Slave Lake area was approved in the spring of 1970. The population of the Lesser Slave Lake region is 20,000. About 45 percent of the residents are of Indian ancestry. Full development of the area's resource base will provide about 7,000 jobs. Present employment is 3,650. During the first year emphasis was on encouraging industrial growth and natural resource development. This was parallelled by the start of a broad social development and educational program.

Northwestern Quebec Planning Mission – Regional Planning Scheme. Responsable de la Mission du Nord-Ouest québecois, Office de la planification et de développement du Québec. Ste-Foy, 1971.

Early in 1970, after a request from the Northwestern Quebec Regional Economic Council, the Quebec Planning Bureau (OPDQ) was asked to prepare a planning program for the region. The Northwestern Quebec Planning Mission was formed, with representatives from nine provincial departments, to prepare a two-prong planning scheme:

(a) *long-term planning* – to define sector and overall objectives;
(b) *short-term planning* – projects and programs to be included in the 1971-72 provincial budget.

The task was carried out in cooperation with the Northwestern Quebec Regional Economic Council.

Manitoba. *East-Man Regional Development Study.* Director, Regional Development Branch, Department of Industry and Commerce. Winnipeg, 1971.

East-Man Regional Development Inc. is one of seven regional development corporations in Manitoba. The corporation is responsible for stimulating the development of

rural eastern Manitoba, part of which is a subsystem of a large region centred on Winnipeg. The preliminary study of East-Man was designed to give a comprehensive view of possibilities and limitations for the long-term development of the region. The objective of the study was to present the interrelated aspects of the region's people and environment as a frame of reference within which policies for future use, conservation and development of the region can be formulated. The study gives an analysis of available socio-economic data. Appendix "C" summarizes the initial inventory of human and natural resources in a sequence of maps which focuses on the settlement pattern in the region. The observable trends and potentials emerge as a pattern of growth centres which are shown in an overall structure plan for the region.

Regional Systems For Development Planning In Manitoba. Director of Research, Planning and Priorities Committee of Cabinet. Winnipeg, 1971.

For the purpose of public planning, Manitoba must be divided into a system of regions suitable for the stimulation of private investment and the allocation of public services. Accordingly, the objective of the report is to present analytical approaches to regional development planning in Manitoba. Six major aspects of the planning process are presented in the report, including:

(a) the problem of defining objectives for public programs;
(b) the comparison of regional planning systems in neighbouring Iowa and Minnesota;
(c) the regional balance of economic growth, income distribution and environmental quality;
(d) the implications of three settlement policy alternatives;
(e) the information needs for regional development planning;
(f) an evaluation model for regional development planning in the Interlake area.

Central Places in the Peace River Region of Alberta. Director, Peace River Regional Planning Commission, Grande Prairie, 1972.

As a part of its research program leading to a preliminary regional plan and subsequently to a regional

plan, the Peace River Regional Planning Commission has published a study of "Central Places in the Peace River Region of Alberta." The objective of the study was to determine the present and probable roles of various urban centres in the region as suppliers of goods and services. The report describes the areas of influence of various centres in the region and summarizes the basic functional aspects of the urban hierarchy such as population, trade areas, interaction of physical units, and communications. Existing patterns have been analyzed to describe trends and to explain factors contributing to various states of the region's structure. The study indicated the roles of various centres in relation to the entire region, according to the "central-place" concept. Policy suggestions and recommendations generated by this analysis represent an important part of the urban function component of the preliminary regional plan.

Revised FRED Plan for Northeast New Brunswick. Director, Program Planning and Evaluation, Community Improvement Corporation. Fredericton, 1973.

The Northeast New Brunswick Economic Development Plan, covered by a 10-year FRED agreement signed in 1966, has undergone considerable revision. The revised plan was signed in September 1972. Its objectives are to create the greatest number of permanent jobs and increase the employability of the area's labour force. Under its revised terms, the FRED plan will be used to supplement numerous other programs now underway or planned by the two levels of government. The new plan will include projects dealing with industrial infrastructure, support to regional industrial commissions, identification and promotion of industrial opportunities, management advisory services, industrial incentives, tourism and forest development, and community projects. To assist area residents in taking advantage of present and future employment opportunities, the plan provides for additional schools, counselling and information services, training and work-orientation assistance, special housing programs, municipal infrastructure, compensation for assets and support for district planning commissions.

Town planning

Town Site Layout on Cost. Dr. G.W. Heinke, Associate Professor, Department of Civil Engineering, University of Toronto, Toronto, 1970.

Many northern communities have been laid out or simply just grown with little consideration of future servicing requirements. A few have been planned with services constructed at the outset. In many cases the low density and spreadout character of the communities make it very costly to service them. The object of this study was to examine two communities, Inuvik and Frobisher Bay, to establish the cost of existing and proposed services versus different types of possible street layouts and densities. An extension of this project would be the generation of several possible town planning patterns for future settlements which can be serviced economically.

Nova Scotia. *Preparing Municipal Development Plans – Guidelines for Municipalities.* Director of Community Planning, Department of Municipal Affairs. Halifax, 1971.

A set of guidelines on the principles and approach to planning have been prepared by the Community Planning Division of the Department of Municipal Affairs in Nova Scotia. These guidelines are intended to help municipal governments in the preparation of a development plan. Following a short general section, the aspects covered include: community self-analysis, the planning study, formulating and adopting the Municipal Development Plan, and using the plan and continuing the process.

Alberta. *New Town of Fort McMurray.* Provincial Planning Office, Department of Municipal Affairs. Edmonton, 1972.

The new town of Fort McMurray is located at the confluence of the Athabasca and Clearwater Rivers, some 250 miles northeast of Edmonton, within the Athabasca Tar Sands area (vast deposits of coarse grained quartz sands containing heavy black oil). The Great Canadian Oil Sands extraction plant, located 20 miles north of Fort McMurray has been instrumental in influencing the town's socio-economic conditions. The town has increased in population from 1,186 in 1964 to 6,132 in 1970. Its present population is 7,150. The Alberta Provincial Planning Office has completed the *Fort McMurray General Plan*. Special

emphasis has been given in the General Plan to policy that will serve as guidelines for future development, particularly in dealing with future "boom" occurrences. There is a strong possibility that the construction of additional oil extraction plants in the McMurray region, along with a wide variety of by-product industries will take place before the end of the decade.

Ontario. *Review of Municipal Planning in Ontario.* Ontario Economic Council. Toronto, 1973.

A study sponsored by the Ontario Economic Council on the municipal planning process published shortly under the title – *Subject to Approval.* The report contains a review of municipal planning in Ontario since the passage of the Planning Act in 1946, deals with the changes that are anticipated in the next decade, and sets out the legislative and procedural responses thought necessary to improve and extend municipal planning as a function of local government. The review was conducted mainly through a series of interviews with people involved in the municipal planning process. Group discussions were held to assess discernible trends that may be expected to change the process during the next decade. The first part of the report, dealing with the experience gained during the last 25 years, contains a large amount of background data. Changes in planning legislation and in provincial policies and practices are recommended in the second part.

Guidelines for Community Planning, Manitoba. J.A. MacMillan, Department of Agricultural Economics and Farm Management, University of Manitoba. Winnipeg, 1973.

Provides insight into the development and changing roles of rural Manitoba communities, a decision-making aid in their interpretation of current available development choices and opportunities. A rational background is thus presented for investigating various alternatives surrounding the "stay option." The paper outlines basic elements in decision-making at the rural family, farm and community level for community development problems. The key elements of the development process (resource base, its use, performance and improvement) are described. Given an analytical framework for community decisions and resources,

the current trends and conditions of Manitoba's development process are outlined yielding a number of complementary alternatives available to rural areas. Possible intervention policies are in turn assessed.

Canada. *Town Planning Guidelines.* Town Planning, Resources Branch, Department of Public Works, Ottawa, 1974.

This publication contains an extensive discussion concerning the criteria and standards applicable to federal construction, land use and site development. Its purpose is to provide professionals in federal and provincial departments, municipal authorities and other organizations in the private sector with guidelines affecting federal site development. As the subject is complex in many respects, the original manuscript has been revised so as to make it acceptable not only to professionals but, on a wider scale, to laymen and students who are concerned with the standards and implications of town planning and land use. While the book is primarily concerned with federal site development in relation to the urban environment, the treatment of the subject should be of considerable practical value to readers who stand in need of reliable guidelines affecting site development since many of the criteria are also generally applicable in a non-federal context.

Participation

Newfoundland. *Provincial Planning Assistance Program To Local Government.* Provincial Planning Office, Department of Municipal Affairs. St. John's, 1969.

Town planning advice is available from the Provincial Planning Office to all local government councils in Newfoundland, as soon as they resolve to plan the development of their territory. The area to be comprised in the proposed municipal plan is defined by the Minister of Municipal Affairs. The local council may be authorized to pass an *interim development order* which will enable it to control development and land speculation until the plan has been prepared by the province at no cost to the municipality. If, after public hearings and the report of the commissioner appointed for the purpose of conducting these

hearings, the Minister approves the plan, it is binding on the local council. Preparation of zoning by-laws and development regulations usually are prepared with assistance from the Provincial Planning Office, as well as detailed development schemes required under the plan. The province also encourages local councils to consult the provincial planning staff on all types of development problems ranging from a single development application to industrial area layouts.

Ontario. *Community Information Centre Study.* Community Development Branch, Ministry of Community and Social Services. Toronto, 1973.

During 1970, the Community Development Branch of the Ontario Ministry of Community and Social Services started a study of a number of community information and referral centres. The objective of the study was to determine what role the province should play in the operation of these centres. During the study, issues arose relating to the assessment of information needs at the local level, the techniques for collecting and collating information, evaluation procedures, the role of public libraries, and inter– and intra-government relationships. The study develops the concept of a community information network to assist in the use of local information resources. An experimental network model was set up in Sault Ste. Marie. A further concept was the development of a two-way flow communication system. The report of this study titled *Partners in Information – A Study of Community Information Centres in Ontario* was prepared by Dr. W.A. Head of York University.

Ontario. *The Community Secretariat Concept.* Community Development Branch, Ministry of Community and Social Services. Toronto, 1973.

The community secretariat is a new concept in providing public support to community groups and activities. It has been developed in response to the increasing demands by these groups on the resources available from various levels of government. All community groups have similar basic support needs and services – meeting space, typing and duplicating facilities, etc. The most efficient way in which these are provided to all groups, activities and interests in a

community may be through the provision of a single, centralized facility to which all groups have access – the community secretariat. The Community Development Branch of the Ontario Ministry of Community and Social Services, in cooperation with the Metropolitan Toronto Social Planning Council is developing a model for the secretariat concept. The first experimental secretariat was opened in Toronto.

Canada. *Public Participation Mechanisms as Used by DREE and its Predecessor: Resume for the Period 1963–1973.* Social and Human Analysis Branch, Department of Regional Economic Expansion. Ottawa, 1974.

This paper identifies the six models of public participation used by DREE and its predecessor (Department of Forestry and Rural Development). For analytical purposes the models are categorized as follows:

(a) Community councils: examples from Saskatchewan, Prince Edward Island and Alberta;
(b) Information-communication programs: The Pas Special Area in Manitoba, the Western Canada Committee for Continuing Education and the BAEQ plan in Quebec;
(c) Resources centre and training facility: the 'Ksan Indian village and training program in British Columbia, the ARDA program in Census Division 14 in Edmonton, Alberta, the Buctouche community centre in New Brunswick, the Manpower Corps in Manitoba, the Opportunity Corps in Alberta and programs by the Canada NewStart Corporations;
(d) Public Meetings and Community Workshops: different development programs in Manitoba and Alberta;
(e) Computer Models: central and regional office linkages;
(f) Consultation, Advisory Bodies: federal-provincial consultations and the Canadian Council on Rural Development.

Two comments conclude the report: (a) administrators and programmers misunderstand the meaning of local participation and its relevance to economic expansion, and (b) departmental staff have generally been unable to interpret the concept with sufficient clarity to make any extensive application of it to the socio-economic

development programs in the country.

Ontario. *Public Participation Programme Evaluation.* Senior Consultant, Office on Community Consultation, Ministry of Community and Social Services. Toronto, 1974.

The Ontario Ministry of Community and Social Services has recently released a report entitled *Analysis and Design of Public Participation Programme Evaluation in Ontario.* This document suggests and describes the use of a specific model for the evaluation of the effectiveness of public participation programmes. The first part of the report outlines the evaluation process in general which involves an assessment of three major factors of analysis: effort, effectiveness and efficiency. The second part of the report provides a detailed description of the model with respect to public participation programmes. The "effort" aspect pertaining to such a programme would be evaluated through the identification and measurement of performance and process indicators such as: distribution of resource material, face to face encounters, working committees, etc. The "effectiveness" aspect would be evaluated through such indicators as credibility and flexibility, while the "efficiency" factor would be analyzed with the aid of the cost/benefit comparisons of the "effort" vs. "effectiveness" factors.

Housing

Yukon Territory. *Housing Programs for Low-Income Families, Yukon Territory.* Director of Social Welfare, Government of the Yukon Territory. Whitehorse, 1971.

A 1966 survey of housing conditions of families dependent on welfare payments indicated that about 50 percent of these families lived in accommodation judged unfit for human habitation. The program set up by the Department of Social Welfare, in first instance, aims to provide accommodation for those families who, because of particular circumstances, are considered long-term welfare recipients. The second group of people served are low-income families unable to take advantage of existing housing programs, or to rent adequate accommodation. The program is aimed at non-Indian families only. The annual budget is $50,000. Some of the housing is constructed by

the Yukon Vocational and Technical Training Centre as part of their instruction program. Existing housing has also been purchased and rehabilitated.

Manitoba. *Handbook for Housing Authorities.* Manitoba Housing and Renewal Corporation. Winnipeg, 1971.

At the request of a municipality, the Province of Manitoba, through its housing agency (Manitoba Housing and Renewal Corporation), will provide housing for low-income families. The administration of this housing is placed in the hands of local housing authorities. To assist these authorities with the organization of their administration and during the initial months of their trusteeship, the Manitoba Housing and Renewal Corporation has prepared a detailed manual titled *Handbook for Authorities – Manual for Guidance of Housing Authorities.* This manual provides details on the composition, responsibilities, bylaws, etc., of local housing authorities, definitions of persons and families eligible as tenants (including income and rent calculation), tenant selection and allocation of rents, rent collection, a section on tenant relations, etc.

Northwest Territories. *Task Force on Housing.* Housing Division, Department of Local Government, Yellowknife, 1972.

The Northwest Territories Task Force on Housing has published its findings and recommendations. This task force was set up in 1971 for the purpose of studying the unique housing problems of Canada's north and to prepare recommendations on the role of the Government of the Northwest Territories in dealing with these problems. The report contains a detailed analysis of housing conditions in the Territories, a series of recommended new programs and revisions to existing programs to promote home ownership, thereby establishing the means through which residents may plant firm roots within the N.W.T. and increasingly share in the control of their own destiny. The report also describes the constraints (rapid growth, climate, distance factors, financial) within which housing programs for the Territories must operate, and the particular demands that these conditions must be expected to place on the various housing assistance programs to make them fully effective. The task

force recommends that the responsibility for all housing programs be placed under the control and policy direction of the Territorial Government, that a housing corporation be established, that incentive programs be developed to encourage and facilitate home ownership, and that the Government subsidize the costs of domestic utilities where they are excessive. The report established the financial requirements and economic statistics to support the recommendations.

Ontario. *Managing Public Housing in the Province of Ontario*. Property Management, Ontario Housing Corporation. Toronto, 1973.

By the end of 1972, the Ontario Housing Corporation (OHC) had responsibility for the management of approximately 45,000 public housing units located in all parts of the province. A report published by OHC reviews the effectiveness of the management approach employed by the corporation and discusses alternative approaches. The report contains seven main recommendations:

(a) Primary responsibility for public housing should remain with the province through OHC.
(b) The concept of relatively autonomous housing authorities offers the best approach.
(c) Urban and district housing authorities appear to offer the best solution.
(d) Housing authorities should operate autonomously, subject to strict financial and management audit by OHC.
(e) Housing authorities should be organized and staffed within guidelines established by OHC.
(f) Housing managers should be seconded to housing authorities by OHC.
(g) A standardized structure for salaries and fringe benefits should be adopted for all housing authorities.

Canada. *Patterns of Housing Quality*. Economics and Statistics Division, Central Mortgage and Housing Corporation. Ottawa, 1973.

In a report published by the Economics and Statistics Division of CMHC, the results are described of a preliminary analysis to develop an index measuring the quality of

Canada's housing stock. The approach taken is to survey a certain portion of the housing stock as it existed in 1961 and to test the possibility of developing an objective quality index. Following a review of relevant literature, the paper presents a detailed description of the objectives, rationale and approach used, and provides the results of the application of the index developed on the housing in seven Canadian cities. The final chapter reviews the implications of the use of housing quality indices based on objective functions. It also refers to dimensions not included in the analysis for lack of data – e.g., neighbourhood appeal.

Manitoba. *Review of Northern Housing Program Performance.* Office of Planning and Policy Development, Department of Northern Affairs. Winnipeg, 1974.

In a coordinating and advisory capacity, the Manitoba Department of Northern Affairs has prepared a general review of the housing programs which have been delivered to remote northern communities in the province. The review, completed in the fall of 1973, examines housing problems in northern Manitoba communities from two points of view:

(a) Housing supply: assessment of the performance of the *Remote Housing Program* in effect since 1969, and currently administered jointly by the Department of Northern Affairs and the Manitoba Housing and Renewal Corporation; and
(b) Housing stock condition: performance review of two government programs: a) *The Pensioner's Housing Program*: a home repair program launched in 1971 as part of the Provincial Employment Program (PEP); b) *The Winter Warmth Program*: a home repair program funded by Central Mortgage and Housing Corporation and Canada Manpower, and administered by the Manitoba Metis Federation; this program was in operation for the winter months of 1972-73.

The objective of the report is to indicate the direction in which housing programming in northern Manitoba should proceed to ensure that people living in remote communities can obtain adequate accommodations.

Transportation

Ontario. *Airstrip Development Program.* Engineering Operations Branch, Department of Transport. Toronto, 1970.

Airstrips form an important part of the overall transportation network, particularly in sparsely settled areas. Chains of airstrips are required to provide access not satisfied by other modes of transportation. Under the terms of the 1968 Airports Act, the province has initiated a program of airstrip development in northern and northwestern Ontario. A network of air travel corridors for commercial and tourist traffic is being designed. It is expected that the needs of tourist travel will be met by airstrips spaced at 50-mile intervals, the needs of commercial travel by air strips at 150-mile intervals. Development of specific strips will be based on local requirements and the demands generated along the entire corridor. The program was conceived to complement the federal program of airport development which had been in effect for many years. The initiative for the construction of each airstrip rests with the local community. The province will normally share 50 percent of the real estate and construction costs, and provides technical and procedural assistance. Operations and maintenance will be a local responsibility.

Canada. *Airports.* Director, Northern Economic Development Branch, Department of Indian Affairs and Northern Development. Ottawa, 1970.

This $5,616,000 program, planned and financed by the Department of Indian Affairs and Northern Development, calls for the construction of 10 airfields in the next nine years in the Yukon and Northwest Territories. It is designed to make Arctic regions more accessible to year-round air traffic and to improve medical, educational, and other services.

Canada. *Transportation 1980.* Economic Development Division, Department of Finance. Ottawa, 1971.

As part of its ongoing responsibilities in assessing overall economic and financial policy implications of social and economic development programs, the Economic Development Division of the Federal Department of Finance has completed a paper presenting an overview of possible

developments in transportation in Canada to 1980. The paper offers some suggestions as to the types of problems that may arise due to economic and technological changes in transportation and how these changes may affect government policy and national economic development. Included in the analysis are rail, air, marine, highway, pipeline and urban transportation. A separate chapter deals with the growing trend to intermodal transportation and the influence of containerization. A brief description of developments in the area of recreation transportation, the relation of transportation and economic development, and education and research in the transportation field is also included. An analysis of the market outlook for passengers or freight is made together with an assessment of technological improvements likely to occur over the next decade. The problems and requirements of the transportation industry are related to economic development trends and government policy evolution.

Canada. *A Comprehensive Transportation and Supply Study of the Far North.* Economic Staff Group, Northern Economic Development Branch, Department of Indian Affairs and Northern Development. Ottawa, 1972.

This study, which was part of the Economic Staff Group's program of scientific activities in the Arctic for 1970-1971, is included in the larger program for development of natural resources in the northern territories. The objective of the study was to produce a brief and practical comparison of alternative supply routes to the Arctic Islands for use by government, as well as oil, gas and mining firms which are concerned with or engaged in exploring those resources in the Arctic Islands. The study is concerned with the bringing of supplies to exploration sites and not with the transportation of products of resource developments to markets.

Recreation

Canada. *Recreation.* Outdoor Recreation Demand Studies, National and Historic Parks Branch, Department of Indian Affairs and Northern Development. Ottawa, 1970.

This federal-provincial program, coordinated by the

Planning Division of the National Parks Service, consists of an extensive examination of the need for park-oriented outdoor recreation facilities in Canada. Data has been gathered on nation-wide participation in outdoor recreation activities by Canadians; outdoor recreation activity in Canada by Americans; attitudes and motivational factors associated with leisure time in general and outdoor recreation in particular; use of parks in Canada by virtue of surveying visitors in the 300 national parks and a nation-wide inventory of outdoor recreation facilities.

Northwest Territories. *Tourism and Outdoor Recreation in the Northwest Territories.* Division of Tourism, Department of Industry and Development, Yellowknife, 1970.

A two-year review study of Tourism and Outdoor Recreation in the N.W.T. is expected to provide the information required for a long-term development plan for the tourism and recreation industry in the entire area of the N.W.T. As part of these series, separate reports are produced on tourist air traffic and highway traffic to the N.W.T., on lodges and outfitters and other facilities.

Canada. *The Economic Impact of National Parks in Canada.* National Parks Service – Planning, Department of Indian Affairs and Northern Development. Ottawa, 1971.

In order to overcome the deficiency of economic reviews and studies dealing with new national park areas and their potential effect on the national, regional or local economy, the National and Historic Parks Branch has recently completed a study of the economic impact of national parks in Canada. The study first reviews the state of the art, next develops a methodology for measuring the effects on the economy of the establishment of a new national park, and then tests this methodology on the Gros Morne National Park proposal.

Canada. *A Measure of Site Attraction.* Open Space and Outdoor Recreation Division, Lands Directorate, Department of the Environment. Ottawa, 1973.

A novel approach to the measurement of environmental intangibles in determining the attractiveness of recreation sites is described in a recent publication of the Lands

Directorate of Environment Canada, titled – *A Measure of Site Attraction.* The report reviews the literature relevant to the study of attendance at recreation sites and discusses three theoretical models that are used in many attendance predictions. It then proceeds to develop a site attraction index method based on the spatial behaviour of the patrons of the site and presents the results of three applications of the technique. The model produces an ordinal scale representing the attractivity of the alternative sites in the system being studied.

CONTRACT NO. 07KX.56500-11005-75-2209

RICHELIEU GRAPHICS LTD